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MEDICAL AND SURGICAL SCIENCE.

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VOL. II.

BALTIMORE:
CAREY, HART & CO.
1835.

JOHN D. TOY, PRINTER.

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NORTH AMERICAN ARCHIVES

OF

MEDICAL AND SURGICAL SCIENCE.

Vol. II.] APRIL, 1835. No. 1.

ARTICLE I.

On Antispasmodics, therapeutically considered. By Robley Dunglison, M.D., Professor of Materia Medica, Therapeutics, Hygiène, and Medical Jurisprudence, in the University of Maryland.

Perhaps with propriety the class of antispasmodics might be included under that of revellents, their whole effect being operated by revulsion. Such, however, is not the universal belief, and indeed great discrepancy has existed amongst therapeutical writers as to the precise situation in which they ought to be placed. Murray classes them, with narcotics, amongst the "diffusible stimulants," whilst Thomson places them with these same agents—as substances that diminish action secondarily. A short inquiry may tend to place them in their proper position.

Antispasmodics are usually defined—"substances that allay irregular muscular contraction," and Paris* affirms, that there are certain medicinal bodies, which would appear to exert a specific control over spasmodic action, from whatever cause it may have originated. Such, he says, are assafœtida, galbanum, musk, castor, ammonia, valerian, &c. He properly adds, however, that "in a more general view of the subject we must admit that this class branches, by indefinable gradations, into narcotics and tonics, for since spasm may be connected with the most opposite states of the body, it is very evident, that many of the individuals included in the class of antispasmodics can only be relative agents: spasm, for instance, may arise from excessive irritability, as from teething, wounds, worms, &c., in which case a narcotic would prove beneficial; or it may depend upon a state of general debility, the proper remedy for which would be the administration of an aromatic stimulant, or the assiduous exhibition of some permanent tonic."

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* Pharmacologia, Beck's Edit. p. 78.

I do not think, however, that the therapeutist would be too sceptical in denying that, in the present state of our knowledge, we are acquainted with a single remedial agent, which acts specifically on the muscular fibre when in a state of spasmodic contraction. That such agents *may* exist cannot be denied, but we know, at this time, none such. They may all be regarded as *indirect* agents, relieving and removing spasmodic action, in consequence of their agency being exerted on other parts of the nervous system than those concerned in the irregular muscular contraction, and thus deriving from the nervous influence concerned in the production of the latter.

In order to thoroughly comprehend this position, let us inquire into the nature of spasm. The Greeks gave the name σπασμος to every kind of convulsion, and by modern nosologists convulsions are ranked amongst the *spasmi.* The term is now usually applied to involuntary contractions, especially of the voluntary muscles; and these, again, have been divided into *tonic* spasms, which consist in permanent rigidity of the muscles concerned,—of which we have an example in common cramp; and into *clonic* spasms, which consist in alternate contractions and relaxations, of which we have an example in the convulsions of children.

It is now admitted by most physiologists, that the muscular fibre, like every primary tissue of the body, is possessed of excitability or irritability,—that is, of a power of being acted upon by appropriate stimuli, and of moving responsive to such stimuli. This *vis insita*, however, absolutely requires that it shall be acted upon by stimuli before motion is perceptible. Now the muscular filaments of the voluntary muscles are supplied with nerves from some part of the cerebro-spinal axis, and along these nerves the appropriate stimulus is sent which rouses them to contraction. In the case of voluntary motion—say of the biceps of the arm to raise any weight attached to the hand, or to the extremity of the forearm—an act of volition is executed, under the influence of which the portion of the cerebro-spinal axis, whence the nerves proceed to the upper extremity, is excited to send the proper nervous influx along those nerves, in quantities strictly in accordance with the extent of action, which the muscle should execute. The muscle immediately contracts responsive to the stimulation. Now, if any cause of irritation exist in the cerebro-spinal axis, or indeed in any part of a nerve distributed to a muscle, such irritation may induce precisely the same effect as the act of volition, and the muscle may, in this manner, be permanently or intermittently contracted. In all cases, therefore, spasm is a nervous phenomenon, and the remedies that are adapted for its removal must exert their agency on some part of the nervous system—not on the muscular fibres, over the condition of which they would not appear to have the slightest control.

They, who admit "direct" antispasmodics, find that difficulties environ them, the very nature of which entangles the subject in inextricable meshes. One of the latest writers on therapeutics,* after entering into a long and singularly infelicitous disquisition on the precise agency of antispasmodics, suggests—as a point requiring consideration—whether antispasmodics are stimulants or sedatives; and he decides that they are sedatives, "for," he remarks, "if the irregular or inordinate action which they overcome be the consequence of irritation, either mental or corporeal, it follows, that in resolving spasm the susceptibility of impression in the extreme motor nerves must be diminished, and this can only be the result of a sedative power. It may, however, be affirmed, that this must either be immediate or consecutive of a previous stimulant operation; thence we can explain the reason why some of those medicines, which can only be regarded as direct antispasmodics, stimulate the general system, and consequently quicken the pulse; since, like narcotics, this action may be primarily of a stimulant character, and be quickly followed by collapse. According to this mode of reasoning, the same results may follow from antispasmodics operating exclusively on the motor nerves, as from narcotics operating on those of sensation."

Without tarrying to animadvert on many of the hypothetical positions contained in this extract, as to the *modus operandi* of antispasmodics and the parts on which they specially act, I may observe, that every difficulty vanishes when we regard the *direct*

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* Professor A. T. Thomson, in "Elements of Mat. Med. and Therap." vol. i. p. 606.

antispasmodics—for such only can be esteemed true antispasmodics—as revellents only, acting by virtue of the new impression they make on the gustatory or gastric nerves, and thus deriving from the inordinate action going on in some other portion of the nervous system. What, indeed, are the reputed direct antispasmodics?—musk, castor, Dippel's oil, oil of amber, valerian, assafœtida, galbanum, bitumen, skunk-cabbage, ethers, &c.,—all substances belonging to the class of excitants, and many of them calculated to make, in addition, a powerful impression on the nerves of gustation and olfaction: and what again are the *indirect antispasmodics?* Dr. Thomson divides them into *material*, including tonics and narcotics; and *mental*, comprising fear and abstraction. It is strange, however, that he should not have classed blood-letting amongst the material agents, especially as he had previously remarked, with much propriety, that whether the effects of antispasmodics are perceptible very soon after their administration must necessarily depend on the cause of the spasm, "whether it arise from exhaustion and collapse, such, for example, as occurs from blood-letting, when the quantity of the vital fluid abstracted is more than the condition of the system can support; in which case nothing is more common than for syncope to be attended with convulsions; or whether it depend on the opposite state, fulness of the vessels of the brain, sufficient to produce epilepsy, or on some degree of inflammation, as in phrenitis, which is sometimes also attended with convulsions." "It should ever be remembered," he adds, "that although antispasmodics are indicated and proper in the first state, just described, yet that this class of medicines is positively injurious when the spasmodic action is the consequence of inflammation of the brain or spinal marrow or their coverings: under such circumstances, blood-letting and measures calculated to subdue the primary disease, are the means to be adopted."

One of the great difficulties, indeed, in discriminating the character of different diseases of the convulsive kind, is involved in the consideration, whether they are dependent upon an inflammatory or congestive condition of vessels, or whether they may not be connected with exhaustion or excessive irritability of the nervous system.

In ordinary cases of spasmodic action, not dependent upon any excited action of vessels, any thing that produces a new nervous impression will prove antispasmodic. Narcotics do so by allaying the impressibility of the whole nervous system.

Nauseous agents produce their effects upon the olfactory or gustatory nerves, and—if they be excitants at the same time—upon the nerves of the stomach. Simple excitants and tonics act on the same nerves, and through them on the general system. Nothing, indeed, could better elucidate the *modus operandi* of these agents, than the consideration of those which Dr. Thomson has termed mental narcotics—fear and abstraction.

He refers to a striking instance of the sanative effect of fear in hooping cough kept up by habit. The patient, a young boy, was threatened with the application of a large blister, and although it was not applied, but merely placed within his view, the dread of it completely removed the cough.

Boerhaave is asserted to have cured epilepsy, by taking a red-hot poker at the moment of the expected attack, and threatening to push it down the throat if the patient should have a fit. Still more recently, the same remedy has been advised to be directed towards the nether extremity of the body. In a treatise on plague, dysentery, and ophthalmia, Dr. Ludovic Frank recommends, that a dysenteric patient should be tied hand and foot, and be held by two men, when "chirurgus cum ferro candenti, figuram coni habenti, coram ægroto compareret, et id versus anum dirigeret, quasi id ano intrudere vellet."*

All these are cases of the simple revulsive effect of fear, and in this way any mental emotion may prove antispasmodic. Any form of abstraction, or rather of distraction, is necessarily revellent and antispasmodic. When Cato, the Censor, reduced luxations, as he pretended, by certain mystic words, he diverted the attention of the sufferer, prevented inordinate contraction of the muscles around the dislocated joint, and a slight manipulation only was necessary to reduce it. At the present day, the surgeon is in the habit of invoking this agency, and although he may have no faith in set forms of speech, or in cabalistic expressions, he knows, that if he can concentrate the attention of the patient, he may lessen the contraction of the muscles, by diverting, in some measure, the nervous influx from them, and if he suddenly exerts his skill at reduction, when the mind is occupied with other matters than the accident, the bone can occasionally be made to slip readily into its place.

By a precisely analogous agency the animal magnetizer operates his cures, and change of air, society, and scenery, exert their good effect on nervous maladies. It is not long since I visited a gentleman who had suffered for some hours under such excruciating pains in the bowels as to induce him to believe that he was labouring under enteritis. As soon as I had examined into his case and laughed at his fears,—under the new mental condition induced, the colicky spasms rapidly disappeared. The nervous, the imaginative, can feel pains wherever they please, and many an individual, by the perusal of cases of disease, has fancied himself affected with the same pains which he has seen described. If, therefore, *attention* can direct the nervous afflux to a part, it is obviously of great moment so to impress the nervous system of the individual, that no concentration of the kind shall take place to the suffering organ; and this can be accomplished by engaging the mind upon some subject of entertainment or reflection, by impressing the totality of the nervous system, or by affecting nerves at a distance from those implicated.

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* *De Peste, Dysenteria, et Ophthalmia Ægyptiaca.* Auctore Ludovico Frank, M.D., pp. 223. 8vo. Viennæ, 1822.

I have before observed, that I do not regard the "direct" or "true antispasmodics," as they have been termed, as worthy of the name, and that I esteem them to produce their effects by the impression they make on the nerves of two of the senses, and by their stimulant properties, which, in the case of the articles referred to as true antispasmodics, are dependent upon animal resin, empyreumatic oil, volatile oil, gum, resin, or bitumen. It has been affirmed, however, that this view is negatived by the fact, that assafœtida—and the remark applies to the other articles on the list—relieves hysteria even when injected into the rectum, and when, of course, there can be no impression made on either the gustatory or olfactory nerves. This is true; but the whole effect appears to be produced by the excitant properties of the gum-resin; and that this is the case is demonstrated by the fact, that if we throw up an excitant, which may never have been regarded as an antispasmodic, we produce the like result. By either agent we make a new impression on the nerves of the rectum, and this derives from the morbid condition seated elsewhere in the nervous system, and at times rouses the individual to consciousness. In such cases, I am in the habit of administering an enema of the oil of turpentine,—not, however, because I regard it as possessing any virtues over the excitant oils in general. I do not look upon it as entitled, in any respect, to the appellation of a "direct" or "true" antispasmodic.

To exhibit what little confidence is reposed in the "true antispasmodics" by practitioners in general, even by those who consider that such a class really exists, it may be well to inquire briefly into the different antispasmodics, *direct* and *indirect*, that are employed in affections of the nervous system, which are regarded by all as eminently adapted for them; an inquiry, which will signally exhibit how much more the latter class are relied on, when much disease is present, than the former. There is, indeed, but one morbid condition in which the "direct antispasmodics" are largely employed at the present day, and the rationale of their action in it is sufficiently manifest.

Tetanus affords us an example of a tonic spasm, which would seem to be signally adapted to test the efficacy of "direct antispasmodics." The disease is seated in the great nervous centres, and unfortunately is too often totally irremediable. Rarely, however, do we find *musk*, or *assafœtida*, or *castor*, or any of the direct antispasmodics, employed, because experience has exhibited their insufficiency. Trust is reposed almost wholly on the *indirect* agents, and especially on narcotics, of which opium is usually chosen; and it is astonishing what quantities will be borne without the induction of any signs of narcosis. Cases are recorded in which fifteen or twenty grains have been given every three hours for several days in succession, and yet but little effect has been produced on the disease, or the patient. Under the derangement of the nervous centres, which constitutes the pathology of tetanus, narcotics do not produce their ordinary results, and the same remark applies to the cases of great exaltation in the action of the nervous centres, which characterize many of the diseases belonging to the class "neuroses."

A case of tetanus algidus—or tetanus from cold—which fell under my care some time ago, may serve to illustrate the mode in which antispasmodics exert their agency. A young man, whilst heated, threw himself into a river to bathe. He immediately experienced some indisposition, and a few hours afterwards was attacked with tetanus, in the form of opisthotonos. He was put upon the use of narcotics, but without the disease yielding. He was now taken out of bed, placed in a brook that ran by the house, and pailful after pailful of cold water was thrown over him, whenever the spasms became violent. Soon after the adoption of this treatment the spasms yielded, and by a continuance of it they ultimately passed away. The boy wholly recovered.

Now this remedy probably exerted its agency in the manner I have described as applicable to antispasmodics in general. It made a new impression on the nervous system by the shock that accompanied the affusion, and in this way broke in upon the chain of morbid phenomena seated in the great cerebro-spinal system.

Chorea is another disease in which the true antispasmodics might seem to be indicated, yet they are but rarely employed in it. The disease appears to depend usually upon great mobility of the nervous system, chiefly of the part connected with the nerves distributed to the voluntary muscles, united with diminished impressibility of the nerves of the ganglionic class: hence tonics and purgatives are relied on, and they become "indirect antispasmodics."

Epilepsy is dependent upon so many causes, that its treatment has to be varied according to circumstances. In the majority of cases, however, as in every disease characterized by periodicity, a powerful impression made upon the nervous system will prevent a paroxysm; but the impression must be made immediately before it is expected. Except for the purpose of preventing a paroxysm, true antispasmodics cannot in any respect be relied on; but if a large dose of assafœtida, castor, or musk, were administered immediately before the hour at which a fit of epilepsy or of ague were expected; it might prevent it. It is in such cases that the mental antispasmodics have been mainly employed. Any agent, indeed, that excites a new and powerful impression—any revellent—may be followed by the same results. Most commonly epilepsy is attended by evidences of great impressibility and debility of the nervous system, and tonics—especially the metallic tonics—are chiefly relied on.

Asthma, again, must be looked upon as a nervous disease—spasmodic in its character generally, that is dependent upon an excited state of the branches of the pneumogastric nerves distributed to the bronchial tubes, but sometimes owing apparently to something like paralysis of the same nervous branches. Hence different agents are effectual according to the precise pathological condition. Commonly, however, narcotics are most signally beneficial. Opium is given in large doses. Stramonium is smoked; the lobelia inflata is largely administered; and all these are occasionally eminently successful; but we rarely hear of the administration of the "direct" antispasmodics, although from the suddenness of the attacks of this disease they might seem to be indicated, and might occasionally be useful. They are so completely eclipsed by the indirect antispasmodics, just mentioned, that they are very rarely employed.

Hooping cough, although a peculiar disease, is somewhat analogous in its pathology to the last. It is chiefly seated in the pneumogastric nerves. When NASSE bruised and pinched one of those nerves in a living animal, so as to break down the structure of the nerve, he found that convulsive cough was excited like that of hooping cough. But although this disease is so markedly convulsive as to have received the name *bex convulsiva*, and various others indicating its character, none but "indirect antispasmodics" have received the confidence of the practitioner. Narcotics generally have been employed, and of these the belladonna more frequently than any other; but scarcely ever assafœtida, musk, castor, or any of the "direct" agents belonging to the class we are considering.

In common colic, both the "direct" and "indirect antispasmodics" may be at times advantageously used; and the same may be said of some forms of gastrodynia. Where these are dependent upon causes which gentle excitants are capable of obviating, a stimulating gum-resin—like assafœtida—may be employed with prospects of benefit. Hence it is serviceable in flatulencies, for the removal of which it is often had recourse to in popular practice.

It is only in hysteria that the direct antispasmodics are, at this day, much used. The affection is cerebro-spinal, and the symptoms that indicate it are most numerous and varied. There is scarcely a nerve, indeed, or a ramification however small, which does not occasionally seem to participate in the morbid condition. Generally the nervous erethism is chiefly concentered in the cerebro-spinal axis, whence irradiations proceed to every part of the economy, and the object which the practitioner has in view is to divert the nervous action to some other portion of the frame. Hence he administers substances that are as nauseous as possible, combined or not with excitants, as he may think proper. With this view he prescribes *assafœtida*, *valerian*, the *dracontium*, the *spiritus ammoniæ succinatus*, and all the reputed "direct antispasmodics," during the paroxysm, and in the interval adapts his remedial agents to the indications which may suggest themselves.

The above observations on the use of antispasmodics, in diseases in which they would appear to be signally appropriate, will exhibit the little reliance that can be placed upon such as are esteemed "direct" agents—the *antispasmodica vera;* and perhaps these brief remarks cannot better be terminated than by quoting the conclusion at which a therapeutical writer, already referred to, has arrived, after having occupied several pages of his work in the explanation of the modus operandi of *direct antispasmodics.*

"From what has been said, it is evident that the range of this class of medicines (antispasmodics) is extremely limited; and, in fact, that every thing which the substances placed in it can effect, even as direct antispasmodics, may be accomplished by other orders of medicines—purgatives, diaphoretics, narcotics, and tonics. At best, antispasmodics can be regarded only as auxiliaries; and the spasms and convulsions are less to be considered than the causes which induce them: remove the cause, and the effect will cease."*

ARTICLE II.

Remarks on the Pathology and Treatment of Hemorrhoidal Tumors. By N. R. Smith, M.D. Professor of Surgery in the University of Maryland.

Although the pathological character of hemorrhoids has often been the subject of investigation, it by no means appears that the conclusions at which any author has arrived in regard to them, have become universally acknowledged principles. The diversity of opinions still prevalent, would seem to justify further investigations.

I apply the term "hemorrhoids" (and in so doing am not singular) to those blood-congested tumors which occur at the inferior extremity of the rectum, whether they bleed or not. Indeed, there is no term which is strictly applicable to this disease in all its various forms and stages, except the general appellation, "tumor," for sometimes they become no longer bloody tumors, (although always so in their commencement,) but are white and fleshy.

The proper character of these tumors is undoubtedly derived from the peculiar anatomy and offices of the parts in which they are located. The rectum is lined within by a mucous membrane of unusual volume, necessarily loose in its connections, very vascular, and very sensitive. The veins of this membrane are derived from two sources—the internal iliac, and the vena portarum.

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* Thomson, *op. cit.* i. 628.

Branches from the former source are appropriated to the verge of the anus, while those from the latter supply the superior portions of the rectum. But these ramuli freely anastomose with each other, forming the plexus hæmorrhoidalis. That portion of the vena portarum terminating in the rectum is the most depending part of that system, and this circumstance is of the more importance because these vessels do not, like other veins, possess valves. In defecation, especially when considerable muscular effort is made, the blood in both systems of veins within the abdomen, is urged with force downward to the region where, by the influence of the will, the levator ani muscle and the sphincter yield at the moment to allow the descent of the feculent mass, and where of course the veins are less sustained, and the afflux of blood less resisted, than in any other region of the abdomen. The effort which expels fæces from the rectum, by precisely the same mechanical operation, sometimes expels blood in copious streams from the plexus hæmorrhoidalis venosus, when its power of resistance is impaired by disease.

CAUSES OF HEMORRHOIDAL TUMORS.

I have never in a single instance known hemorrhoids to occur in childhood. It is not till after the period of puberty, especially in the male, that this region assumes its utmost vascularity, the vessels of the rectum being necessarily influenced by the development of the prostate gland, vesiculæ seminales, &c. The inflammatory variety of hemorrhoids occurs most frequently in early and middle life. Varicose hemorrhoids more frequently happen in old age. Females are less subject to this disease than males, except during the period of utero-gestation, when these tumors are of frequent occurrence.

Persons rendered plethoric by inactive lives, and by indulgence in the pleasures of the table, are thus predisposed to hemorrhoids. Enlargements and indurations of the liver must necessarily predispose to these tumors, by the mechanical impediment which they occasion, both to the portal circulation, and to the return of blood by the vena cava. It is probably by inducing disease of the liver that intemperance is so common a cause of hemorrhoids. It is well known that the same cause occasionally favours the production of a varicose condition of the veins of the lower extremities. No remote cause, however, is more effective than habitual constipation—a state which is almost necessarily associated with a torpid circulation, but which especially produces engorgement of the hemorrhoidal veins, by impacting the large intestines with fæces, and mechanically obstructing the return of blood. The effect also, in part, arises from the irritation caused by the presence of the hardened excrement, and especially from the strong muscular efforts made in its difficult evacuation. The mechanical irritation of these substances upon the verge of the anus, at the moment of its discharge, is often the immediate cause of an attack of hemorrhoids. An acrimonious condition of the feculent matters, exciting keen sensations at the verge of the anus when discharged, is productive of similar effects. "Likewise," says old Wiseman, "sharp humors, passing that way from the guts, do, by their acrimony, provoke the piles." When thus arising the disease is remotely dependent on unhealthy digestion, and a diseased state of those secretions which qualify the condition of the fæces.

Undue excitement of the genital organs necessarily creates engorgement of the vessels of the prostate, vesiculæ, and rectum, and therefore aids the production of hemorrhoids.

PATHOLOGY.

Before entering upon this department of our subject, I would premise that I shall recognize three varieties of the affection under consideration; 1st. *the inflammatory;* 2d. *the indurated;* 3d. *the varicose.* The first variety is by far the most common. The second is next in frequency, and invariably arises from the first. The third is often, but not invariably, the sequel of the first.

It has been the opinion of most surgeons that hemorrhoids are tumors arising from distension of the extreme veins of the part, and their conversion into cells, the coats of the veins becoming thickened by irritation, and the blood which lingers in them often becoming coagulated. The veins concerned have been supposed to be branches of the vena portarum. This belief has been probably founded, partly upon the physiological doctrine of the circulation, which supposes the blood never to leave the vessels in any part of its circuit, it being thought to pass directly from capillary arteries to capillary veins. It has been sanctioned also by the fact that, in one variety of the affection, this condition of the parts is demonstrable. If we lay open one of the tumors of the more common variety, the most constant appearance which we observe, is that of a fine reticulated tissue, in which the veins appear to terminate, their extremities appearing to be resolved into the filaments of this texture. In the centre of this tissue there is often a considerable cell, or cyst, generally empty, but often containing a coagulum of blood. This will often have become in a degree organized, and have assumed a fleshy consistence. When one of these tumors, in a highly inflamed state, is laid freely open on the living subject, a very black coagulum of blood is invariably found to occupy this cyst, and to be attached by small processes to the surrounding tissue.

When these tumors are dispelled by ordinary means, this coagulum of blood is probably often entirely absorbed, since no hardness, or enlargement of the part, remains. But if the inflammation is allowed to linger in the part, or by ordinary exciting causes is often repeated, additions are occasionally made to the coagulum, and this becoming organized, and finally in itself indolent, the second variety of the disease results.

The structure of an inflamed hemorrhoidal tumor is very analogous to certain healthy, vascular and erectile tissues, met with in other regions of the body. It bears, for instance, a strong resemblance to the texture of the spleen, when its contained blood is washed out. It still more strongly resembles the tissue of the corpus spongiosum urethræ.

It is now, I believe, an established principle in physiology that, in the circulation, the blood, in leaving the extreme arteries, is in part poured into the proper tissue of each organ which it nourishes, and is again absorbed by the extreme veins and restored to the circulating current. In inflammations this takes place in a preternatural degree. From the anatomical character of these tumors it is a just inference that, in their production, the submucous texture, being forcibly injected with blood, becomes hypertrophied, and assumes the character of a morbid erectile tissue. After being often strongly distended with blood, some of the cells become ruptured and at length a cyst is formed, in which, as the blood often lingers for some time, this fluid finally becomes coagulated.

The second variety of hemorrhoidal tumor very rarely exists alone, for being hard and incompressible, it becomes itself the cause of irritation to the surrounding parts, and produces other inflamed tumors, destined perhaps to suffer the same series of changes. The indurated tumor is nearly bloodless, and possesses very little sensibility. Sometimes, when small, they present very much the appearance of warts. They are by no means to be confounded with schirrous tumors, into which hemorrhoids are said sometimes to degenerate.

When the inflammatory hemorrhoids have been several times repeated, and the coagula deposited have as often been absorbed without the production of the second variety, the distension which the mucous membrane has undergone will cause loose folds of this membrane to be left, ready at any time to receive blood, and to become again distended when the exciting causes shall be repeated.

The second variety of hemorrhoids never bleeds; the first much more rarely does than is generally supposed. In those cases of hemorrhoids in which I have been consulted, not one in twenty has been subject to hemorrhage. Occasionally, however, the epithelium which covers the summit of a hemorrhoid becomes disorganized, and the surface presents something of the reticulated appearance which the interior does. Under these circumstances, when strong and often involuntary efforts are made at stool, blood is forced from them. This takes place especially when the tumors, having descended, become in a degree strangulated by the sphincter. The occasional spasmodic contractions of this muscle have the effect to express blood from them with a great deal of force. Bleeding is, however, not the necessary consequence of this slight disorganization of the summit of the tumor, for I have often seen it where no bleeding had at any time occurred. It is much more frequently seen on the summits of those tumors which are situated within the verge, and which are only seen when an effort is made to force down the rectum.

The third and last variety of hemorrhoidal tumor, is the varicose. This is that variety which truly consists in a dilatation of the veins. They are livid in colour, elastic to the feel, and are easily and instantly emptied of their blood by pressure, and made almost wholly to disappear while the pressure is continued. These tumors occur far most frequently in old persons, and especially those whose veins become unusually developed; they also frequently arise from disease of the liver. They are the varicose hemorrhoids which are by far the most frequent sources of copious bleeding. Often, indeed, when the effort is made to go to stool, a copious stream of blood spirts from the rectum like the evacuation of a liquid stool. Often a pint or more is evacuated in a moment, and these discharges, occurring at intervals, are, in some cases, continued for years.

After death, as the blood recedes from these tumors, they collapse and disappear, and hence they have been far less frequently the subject of anatomical examination than the other varieties, which remain more manifest. They may be injected from the vena portarum with great facility, and are then plainly seen to be cells resulting from dilatation of the hemorrhoidal extremities of that vein—true varices indeed. These varices, belonging to the portal branches of the plexus hæmorrhoidalis, are always internal piles, and are only made to display themselves externally by a considerable effort of the patient, as if at stool. This is the variety of hemorrhoidal tumor from which Petit often succeeded in taking blood as freely as from other veins in other parts; and this is that the extirpation of which, more frequently than others, is attended with alarming hemorrhage. Ligatures to this form of the disease we might also expect would, in some instances, cause phlebitis and its train of formidable symptoms.

SYMPTOMS.

In the pathological history of these tumors, I have mentioned some of those external appearances and expressions of disease which constitute the symptoms of hemorrhoids. Of these, however, it is necessary that we should speak more particularly. The production of these tumors, and especially the effusion of blood from them, is often preceded by a group of constitutional symptoms, termed the molimina hæmorrhoidalia; they are, a general malaise—a slight degree of febrile excitement—sense of fulness in the rectum—vertigo—and (in those subject to it) headache; these symptoms being almost always preceded by constipation. Such signs of disorder generally disappear at once, so soon as the hemorrhoids appear. If the tumors bleed, relief is given, chiefly by the depletion which results; and if they do not bleed, they effect the same result, less completely however, by revulsive irritation.

Hemorrhoids are often engrafted upon constitutional disease of a chronic character. They sometimes occur in the gouty diathesis. I have known them also to supersede slight rheumatic pains which, for days or weeks before, had been wandering through the system. They not unfrequently occur in phthisis pulmonalis, and then often, for a time, divert the local expression of irritation from the lungs, while, however, the declension ordinarily continues.

The inflammatory hemorrhoids present themselves in every imaginable degree of severity. According to the nature and operation of the causes producing them, they may be gradually induced, or suddenly developed. When they occur gradually, as they ordinarily do from constipation, the most common cause, the patient's attention is first drawn to the part in the evening, after exercise on foot, and the sensation is that of some small foreign substance, lodged in the anus, and creating slight irritation. A sense of fulness is also experienced within the rectum. The finger being applied to the part, a small tumor, of the size of a pea, is felt. The use of paper, after a stool, causes pain. If the part be examined at this time, a single tumor of small size is ordinarily seen just within the grasp of the sphincter muscle. When additional irritation is inflicted upon the part by exercise—by the passage of hardened fæces—by the action of drastic cathartics, or other causes, other tumors are formed in the vicinity of the first, till perhaps they completely encircle the verge of the anus, each of the natural duplicatures of the membrane becoming converted into a hemorrhoidal tumor. They form, also, within the rectum, creating a painful sense of fulness and distension in the part. Whenever the patient makes an effort to go to stool, the tumors are expelled by the action of the muscles, and drag with them often a considerable portion of the mucous lining of the intestine, engorged with blood, and inflamed. The sphincter then, participating in the irritation, contracts with spasmodic force—prevents the retraction of the protruded gut, and, strangulating the mass of tumors protruded, causes them to become engorged in the utmost degree. They then present the appearance of a cluster of purple grapes, the mass being sometimes as large as the fist, and completely concealing the anus. While thus protruded and constricted, the parts are agonizingly painful. Often the patient will himself return them, but frequently the contact of the fingers for this purpose is so distressing that his resolution fails, and they remain in this condition till medical aid is obtained. Sometimes the membrane covering the reticulated tissue gives way, and blood flows, causing partial relief. When this does not happen, the inflammation of the part becomes very intense, and sometimes even results in sphacelation of the part strangulated, accompanied with symptoms resembling those of incarcerated hernia.

If the fingers are applied to these tumors thus situated and steady pressure is continued upon them for a few minutes, their volume is greatly reduced by the gradual expulsion of their blood; but if they have continued for some little time, a portion of this fluid, in some of the tumors, will have coagulated, and these can by no means be wholly obliterated by pressure.

Persons labouring under inflammatory hemorrhoids, even of moderate severity, suffer more or less uneasiness whenever they are in the erect position. They walk with difficulty, and find it impossible to ride. Their evacuations are always more or less painful.

Sometimes the irritation of hemorrhoids is imparted by contiguous sympathy to the urinary organs, and especially the parts about the neck of the bladder and prostate gland. Hence arises a variety of spasmodic stricture and retention of urine, even more formidable and distressing than the primary affection.

The inflammatory hemorrhoids, if properly and promptly treated, may wholly disappear, the coagula which are formed being absorbed; but if they are neglected, the coagula become organized, and from time to time receiving additions as the inflammation recurs, they convert the tumors into those of the second variety. The indurated hemorrhoid is hard and incompressible. It contains but little blood, and in itself is not painful, although it inflicts mechanical irritation on the surrounding parts, and is thus the cause of other tumors of the inflammatory kind, also, perhaps, destined to undergo the same changes. The indurated tumor, therefore, rarely exists alone.

The varicose hemorrhoidal tumor is of a dark purple colour, but little sensitive, very elastic to the touch, and capable of being almost instantly dispelled by pressure. It as quickly recovers its former size on the removal of the finger. It feels, indeed, almost precisely like a varix in any other part of the body. Tumors of this variety do not cause much suffering to the patient, although, as I have before remarked, they frequently bleed. The blood of these tumors I have not known to coagulate in them, nor do they undergo any considerable changes, except in form and size, even should they continue for years.

TREATMENT OF HEMORRHOIDS.

In the treatment of the inflammatory hemorrhoidal tumors, if at their commencement, the patient be plethoric and the pulse active, there can be no hesitation in regard to the propriety of general blood-letting, to an extent corresponding to the urgency of the case. Equally obvious is the necessity for an immediate evacuation of the bowels. This should be accomplished by the oleum ricini, or other mild cathartic, assisted by emollient injections. In the administration of the latter, care must be taken to inflict no mechanical irritation. Cool ablutions should next be practised; the patient should be placed in the recumbent posture, and mild aliments, which cause the production of soft fæces, should be exclusively taken. When the disease is incipient and slight, these means will suffice.

But if the tumors have existed for some time, and have become hard and very irritable, some efficient local means are necessary. Bleeding directly from the tumors, by leeches, is by some recommended; but the occasional irritation, excited by the bites, is a valid objection. They may be applied, with great propriety, to the parts a little exterior to the verge of the anus. If the parts be particularly sensitive and painful, the application next employed with propriety, is a common bread-and-milk poultice, qualified with five or ten grains of opium. Or we may obtain very soothing effects from the use of a fomentation of poppy heads, hops, or chamomile. A soft sponge moistened in an aqueous infusion of opium, I have frequently employed. These means will sometimes prove sufficient; but more frequently they only allay, in a degree, the distressing symptoms and prepare the way for the incision, or excision, of the tumors.

When the tumors, with a portion of the rectum, prolapse at stool, and become strangulated by the sphincter muscle, they should be instantly returned; nothing is gained by delaying for the purpose of making application of medicated lotions or unguents. They may, however, be dashed with a little cool water, which will constringe and, in some degree, empty their vessels. The operator may then cover the tumors with the fingers of one or both hands, and by gentle and gradually increased pressure, endeavour to express their blood and diminish their volume. This being accomplished, he presses upward the whole mass, and forces it within the sphincter, at the same time exhorting the patient to refrain, as much as possible, from all bearing down efforts which are provoked by the irritation felt, and which are in a degree involuntary. To avoid the immediate re-protrusion of the tumors by these efforts, and to render the return of them more complete, the surgeon should follow them as they recede into the rectum with his finger, and this being deeply introduced, so that the knuckles shall press upon the parts around the verge, is to be held there until the irritation caused by the operation subsides in a degree, and the volume of the tumor is still further diminished by the pressure thus caused, and by the relief of the strangulation. The operator should then gently and slowly withdraw the finger, and instantly apply to the anus and perineum a soft elastic sponge, dipped in cool water, or the infusion of opium. This should be kept gently pressed upon the part, by the hand of the patient, till he no longer feels the tenesmus which threatens again to protrude the tumors. If the bowels have been immediately before freely evacuated, an anodyne may be given, in order to prevent further movements until the parts shall have had time in some degree to recover their natural condition. The patient should then be directed to use only such articles of food as shall produce soft evacuations—these may be mush, buckwheat cakes, fruit, &c. When an alvine movement becomes necessary, which should by no means be delayed too long, an injection of cool water may be administered. The patient should be directed to avoid strong efforts, and, if there occurs any protrusion, to wash the part immediately with cold water—to place himself on his back, and to effect their return at once. When, at length, the hemorrhoids have lost their irritability, there will still occur some temporary protrusion of the membrane, which is now loose and redundant from recent distension. After each stool, therefore, the patient should deterge the part well with a soft sponge dipped in a decoction of oak bark.

If the means already described fail to effect the removal of the urgent symptoms of inflammatory hemorrhoids, it is quite certain that in the principal tumor, or tumors, coagula have formed, which fail to be absorbed, and are now the source of irritation. In spite of all ordinary application, therefore, the tumors will persist until perhaps they assume the character of the indurated, the inflammation having been from time to time aggravated by the usual causes. Under these circumstances nothing but the knife can be expected to give permanent relief. A more simple operation than extirpation will, however, in most cases suffice—an operation the object of which is the removal of the coagulum which will invariably be found to occupy the centres of the principal tumors. To effect it, a common bleeding lancet is the only instrument required.

The patient should be directed to place himself in the posture in which he is accustomed to have his evacuations, and to make the usual expulsive efforts, (the bowels having been, some hours before, properly evacuated.) The tumors which are external, are then so distended as to be rendered prominent, and those which are within are thrust into view. The largest of the tumors are then to be seized between the thumb and finger, and being made tense by pressure, are to be laid freely open longitudinally, each with a single thrust of the lancet. The continued pressure of the thumb and finger will then expel the coagulum from the tumor. The removal of the coagula is not the only benefit which results; there necessarily occurs some bleeding, and a new excitement in the part results from the incision. The smaller and less inflamed tumors, being dependent on the larger, disappear on the removal of the latter. A poultice should be applied after the operation, and perfect quiet enjoined. It will be inferred that I would never perform this operation when the parts are in their most highly inflamed condition. No serious hemorrhage need be dreaded from these incisions.

When, after the disappearance of hemorrhoidal tumors, either with or without incisions, loose redundant membrane is left, ready to favour the reproduction of tumors, these folds should be cut away with scissors, close to their bases.

My own experience and observation have brought me to the decided conviction that inflamed hemorrhoids ought never to be extirpated, either by the ligature, knife, or scissors; because, although such operations may be effectual, they are painful, not a little hazardous, and unnecessary, for I have seen no instance in which incision has not been effectual.

When, after the operation, cicatrization has been completed, astringent lotions or unguents may be resorted to. The best application which I have ever employed for this purpose, is an unguent composed of lard ℥ i; very finely pulverized galls ʒ i; an equal quantity of powdered opium; and of the ung. hydr. ʒ ij. With this compound the parts should be well anointed, morning and night, a small quantity being introduced within the rectum.

The second variety of hemorrhoidal tumor, the indurated, can be successfully treated only by extirpation. Being but little vascular or sensitive, but little pain or hemorrhage attends their removal, especially since they are usually attached by a small neck, or pedicel. They are best removed by the knife, or scissors. Under no circumstances should the ligature ever be resorted to for the removal of any form of hemorrhoidal tumor. No torture can be more intolerable than that which it often inflicts, and especially when applied, as it often is, to parts inflamed and morbidly sensitive. Petit relates two cases in which, from the use of the ligature, symptoms resembling those of strangulated hernia resulted; and Kirby, in his "Observations," relates one in which the same agent produced tetanus and death.

Hemorrhage of a very formidable character, and sometimes fatal, occasionally results from the extirpation of inflamed hemorrhoids by the knife. Should such an operation be preferred to mere incision, I would remark that, where bleeding does happen, it is most dangerous when, an internal tumor having been removed, the blood is poured into the rectum and colon. The signs indicating this concealed hemorrhage should be carefully borne in mind; they are faintness, pallor, distension of the belly, sense of heat and weight in the abdomen. An efficient method of arresting it is practised by the Parisian surgeons, and consists in tying a large cylinder of lint around the middle, with a double ligature, and introducing it into the rectum, so that when the thread is drawn downward the cylinder shall place itself transversely, and make pressure from within outward, rather than escape. Another pledget is then to be placed on the outside of the anus, and the ends of the ligature being firmly tied upon it, all the lower part of the rectum will be closely pressed between the two compresses. Another method is to introduce a portion of the intestine of some small animal, or a bladder, and then to strongly inject it with cold water. Sponge is often introduced, dipped in a cold solution of alum. Dupuytren always anticipates hemorrhage by the use of the actual cautery, instantly after the operation. It must, however, prove severely painful, and be occasionally followed by serious irritation. In France it would appear that hot irons produce no pain, but in this country, for some reason or other, they produce very uncomfortable sensations.

The treatment of varicose hemorrhoids is extremely simple. Their removal by knife or scissors should never be practised, both on account of the formidable hemorrhage which often results, and the danger of producing phlebitis, as often results from the excision of varices from the leg. For the cure of varicose hemorrhoids it will often be necessary to direct our remedies to the liver—to modify the habits of the patient, and to enjoin exercise. The most effectual local application which I have used, is the astringent unguent directed above, persevered in for a considerable time. Various astringent lotions may with propriety be used. I have employed the nitr. argent. with decided benefit, but it produced severe irritation. Pressure by the rectum bougie, is confidently relied upon by many;—the instrument may be medicated with astringents. Howship recommended the metallic bougie. The bowels should always be kept soluble, as nothing can be more mischievous in this variety than severe straining at stool, to effect the evacuation of hardened fæces. When exercising, the patient should wear an elastic compress, kept snugly applied by a T bandage, to the circular part of which a scapulary is also attached, to render the pressure more firm and constant.

When hemorrhoids appear to be a local affection engrafted upon constitutional disorder, and when, especially, we have reason to suppose that they have superseded some more formidable affection, such as phthisis, or some form of cerebral disease, we may well question the propriety of suppressing them. When, however, they become severely distressing, palliatives may at all times be used. But in most cases, where disease of some important organ has not preceded them, and apparently given place to them, we may attempt the radical cure, using the precaution to establish, at some other point, some less annoying revulsion.

The assertion of Mr. Ribes, that internal hemorrhoidal tumors often result in the production of fistula in ano, by bursting into the rectum, is by no means confirmed by my experience. I do not recollect a single case of fistula in which such was clearly its origin.

ARTICLE III.

Cases in Midwifery. By Richard H. Thomas, M.D. Lecturer on the Principles of Obstetric Medicine, Baltimore.

Case I. *Shoulder presentation in which turning was rendered difficult by a rigid spine.*—June 1827, I was requested by a medical friend to visit this case with him. The patient had been in labour some hours before he was called. The waters had been discharged, and the shoulder presented at the upper strait. He attempted to turn, but was prevented by the violent contractions of the uterus, his hand being so cramped and paralyzed, that he was forced to desist. He gave a large opiate in order to lessen the strong uterine efforts, and came for me.

We found her under the influence of the opiate, and the uterus comparatively quiet. On attempting to turn, my friend was again obliged to withdraw his hand, so firmly was the uterus contracted on the child. At his request, I then sat down and introducing my right hand very slowly, succeeded with great difficulty and at an expense of severe pain to my patient and myself in bringing down one foot. A fillet was placed around the ankle, while I passed my hand up in search of the other. With almost equal difficulty this was seized and brought down into the vagina, and we imagined that our most formidable obstacles were overcome.

An unexpected one now offered itself, the fœtus refused to turn. The shoulder had been elevated from the strait into the left iliac fossa so that it presented no impediment to the descent of the child. Without being able to explain the difficulty, we were obliged to overcome it by force. By great exertion we succeeded in delivering our patient, and then the difficulty was explained. The fœtus belonged to the class of anencephalus monsters: the vault of the cranium with the arch and spinous processes of the vertebræ were deficient, and the spinal column throughout its whole extent was rigid and inflexible;—hence the obstacle to turning.

The day following, our patient had fever, and somei nflammatory symptoms made their appearance; but they were relieved by bleeding, purgatives, &c. and she did well.

We regretted that we were not permitted to examine the child more minutely than we could do by an external inspection.

In reflecting on the case, we congratulated ourselves that in the violence we were obliged to use, no injury accrued to the mother. A laceration of the uterus under the circumstances would not have surprised us.

Case II. *Twins, turning the second child, Hemorrhage.*—May 1st, 1831, Emily —, aged 16 years, was delivered naturally, the vertex presenting, of a large child. Placing my hand on the abdomen, it was evident that there was another fœtus, and after waiting half an hour, no pains returned, but there was considerable flow of blood. The fœtus did not present at the superior strait. Frictions were used over the uterine region, but no regular contractions were induced, and the hæmorrhage continued. One hour after the birth of the first child I introduced my right hand with ease into the uterus without encountering the fœtus. Carrying my hand to the left side, I found it enveloped in its membranes, ruptured the membranes between my finger and thumb, brought down the feet, and pains coming on, she was delivered without difficulty of a living child. Two distinct placentæ connected by thin membranes, were soon afterwards expelled, and the hemorrhage ceased.

This case is a little singular, in that after the birth of the first, the second child, or its membranes showed no disposition to present at the upper strait, and when the hand was introduced, the uterus seemed to be divided by a longitudinal contraction into two compartments, in one of which the fœtus was found. As respects the practice the indication was clear.

Case III. *Shoulder presentation, internal Hemorrhage, &c.*—My friend Dr. J. L. Webster requested me to see this case, Dec. 28th, 1833. The patient was a robust coloured woman about 37 years old, who had had many children.

I received the following history of her case. She was seized with labour pains two days before, and a granny was called, who ruptured the membranes. All pains immediately left her, and she has been quite easy ever since. Dr. W. was sent for, and finding some obscurity about the case asked my opinion. I saw her with him about twelve o'clock. She was laying perfectly easy; the uterine tumour was large and firm.

On making an examination per vaginam, the os tincæ was dilated, and above the brim I thought I discovered the breech of the child and the funis feebly pulsating beneath.

We agreed that Dr. W. should watch the case and report progress. About two o'clock I got a hasty summons, with the information that pains had come on, and that a hand had come down. When I arrived I found the left hand entirely without, the arm in the vagina and the shoulder firmly wedged in the upper strait. The pains were strong and propulsive, and it was determined that I should turn. Pulsation in the cord had ceased.

On attempting to introduce my hand, such violent contractions were induced as to oblige me to desist, after many cautious but persevering efforts. As the pains were very strong and expulsive, and the pelvis evidently well formed and large, and the shoulder apparently descending, we determined to wait some time to see if any change would occur, believing also that the violent uterine action would soon exhaust itself, and that then turning might be resorted to with a prospect of better success. In the meantime our patient's pulse was good and her countenance cheerful.

At six o'clock, no favourable change having occurred, and the uterine contractions continuing strong and very painful, we administered a large anodyne. I left her for a short time, my friend continuing with her. A little before eight I returned and found her condition much changed. The pulse from being firm had become weak; the skin was bathed in moisture; the countenance was sunken, and the pains were feebler. Fearing a rupture of the uterus, I placed my hand on the abdomen, but found nothing to confirm my fears. Hemorrhage must have occurred, but there was not the least external flow. I determined to deliver without delay. Providing my friend with a dose of ergot to be administered as soon as the turning was effected and some cordials I carried my left hand into the uterus without much difficulty. It there encountered the separated placenta and a quantity of coagulated blood. Passing it through this, the feet were reached and brought down into the vagina, the shoulder having been elevated and carried towards the right iliac fossa. The ergot was administered, contractions came on and in a little time, the child, placenta and coagula were expelled. As she seemed faint, a tea spoonful of raw brandy was given and she drank a little wine and water. The hand was placed over the uterine tumour and diligent frictions used. The organ contracted but not so firmly as usual. The moment the pressure was relaxed, that moment the uterus enlarged and though renewed pressure would reduce it again, it never was reduced to its natural dimensions after labour. In the meantime there was little or no external flow, but our patient continued very prostrate. Another dose of ergot was administered, and cordials such as wine and water, carbonate ammonia, occasionally brandy, were given, and for a time her strength seemed to rally. Constant pressure by the hand was kept up over the uterine tumour for more than two hours, and afterwards by means of a compress and firm bandage. Vomiting now came on with sinking spells; mustard was applied, and brandy and opium given—the ammonia repeated. Every exertion was made to rally the sinking powers of life but in vain, she lingered till five next morning when she died.

After the delivery, comparatively little blood was lost. The concealed hemorrhage had been so great that she could not recover from its effects.

This case in many of its features is very similar to case clviii in the 2d vol. of Ramsbotham's observations on midwifery, and like it, presents an instructive lesson to the practitioner. It is to be regretted that more care was not taken in the first instance to ascertain certainly the presentation, as it is possible that turning might have been more readily accomplished at that time. To have ascertained the true presentation, it would have been necessary to have introduced the whole hand, but this should always be done where there is any doubt.

Again we have high authority for the practice which was pursued in this case; Denman, Blundell, Merryman and others recommend that when violent contractions of the uterus oppose the introduction of the hand, "we should wait till the organ wearied with its own efforts, either ceases to act or acts with less violence," at the same time to administer large opiates. Yet while we are waiting, rupture of the uterus, or internal hemorrhage may occur.

If we persevere in our attempts to deliver, we may bring to pass the very evils we wish to avert. We have but a choice of evils—to choose the least is our duty. Under similar circumstances I should still be disposed to rely upon large opiates and time, rather than by violent efforts to reach the feet, endanger the integrity of the uterus.

Case IV. *Miscarriage, concealed Hemorrhage before the rupture of the Membranes.*—March 16, 1834. I saw Mrs. L. in the sixth month of her first pregnancy. She complained of pain in the uterine region and a sense of tightness and distress in the organs which felt remarkably hard, even during the interval between the pains, during which the hardness does not perceptibly increase.

I took from the arm twelve ounces of blood, the pulse being full and firm, and ordered a dose of oil and laudanum. In the evening enemata of starch and laudanum were given, and a sinapism applied to the spine, my design being to prevent what I believed to be threatened—a miscarriage.

17th. She feels better this morning, having passed a good night, has less pain, the womb does not feel so hard, but on one of its sides there is a lump, evidently caused by some irregularity in its development. At ten A.M. true uterine pains came on, and at two P.M. the waters were ruptured and the fœtus of six months expelled, the breech presenting. The placenta speedily followed; upon inspecting it, there was found on its uterine surface a large firm clot, weighing more than a pound. The cellular structure of the placenta was entirely destroyed by pressure, except a portion, an inch in diameter, which had continued attached till the end of the labour. The hemorrhage had plainly occurred before the labour, and the blood had been poured out between the uterus and the placenta, where it had been retained by the adhesion of the membranes.

Not one drop of blood was lost until after the expulsion of the child, and then only in the form of a firm coagulum, lodged, as I have described behind the placenta, the uterine surface of which presented quite a concavity. The patient did well.

It is strange that Velpeau* should be disposed to deny the occurrence of concealed hemorrhage before the rupture of the membranes. That it does happen rests upon testimony which cannot be gainsayed. Several very interesting cases are detailed in the Lancet, for 1829–30, by Mr. Coley, and the appropriate plan of treatment laid down. Mr. Ingleby and others also relate similar cases, but I am not aware of any which occurred so early as the sixth month of utero-gestation, at which period it might be supposed the uterus would resist any sudden distension more than at the full term.

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* Velpeau's Midwifery, page 371.

Case V. *Twins,—Hemorrhage after delivery.*—Mrs. F. who lived six miles in the country, had usually very tedious severe labours, followed by flooding. She was taken in labour for the fourth time, Aug. 23d. 1834, and sent for me. I found her as follows. After a labour of four hours, she had been delivered of twins, about forty minutes before my arrival. Violent flooding immediately ensued. It still continues, though in a less degree, her pulse is very feeble; countenance exsanguined; frequent faintings; uterus large and soft, placenta retained. A tea spoonful of raw brandy was given. Frictions and grasping the uterus alternately caused it very soon to expel coagula, and an immense placenta—a single one with two cords. She seemed very faint, another tea spoonful of brandy was given. Cold to the vulva, continued pressure and frictions over the uterus, arrested the hemorrhage. As soon as the pressure was moderated, again the uterus relaxed. A dose of secale cornutum was given. In fifteen minutes the contraction was so firm as to allow me to remove my hand, and the organ did not again become relaxed. A compress and firm bandage were applied, and the hemorrhage did not return.

The good effects of frictions and grasping the uterus were here signally manifest. These means will in a majority of instances of hemorrhage after labour succeed. I have not for years been obliged to introduce my hand into the uterus, either to arrest hemorrhage, or to remove the placenta: that it is very rarely indispensible I am convinced. The efficacy of the ergot in giving tone to the contractions cannot be doubted by any one who will take pains to get a good article and give it a fair trial.

Case VI. *Puerperal convulsions relieved by the long Forceps.*—May 13th. 1834, I received a message from Dr. Jones of this city, requesting my immediate attendance with instruments. The case was that of a young woman with her first child. She had been in strong labour for six hours, when she was seized with a convulsive fit which lasted fifteen minutes, from which she had partially recovered when I arrived. The pulse was full and hard and the countenance flushed; she complained of headache. A vein was opened in each arm, and about two pounds of blood was taken. While the blood was flowing she had another strong fit, and on making an examination, the head was found firmly engaged in the superior strait, the occiput looking backwards. The waters were discharged and the os uteri well dilated, as were the other soft parts. The pains were regular but not very expulsive.

Under these circumstances, we agreed that it would be best to expedite the delivery by the forceps. Though the head was high up, the long forceps of Baudelocque, as modified by Dr. Dewees, were applied without difficulty. Advantage was taken of the pains which still continued to act with them; yet so firmly was the head wedged that I was obliged to exert much strength to make it descend, and nearly one hour was consumed in completing the labour. The perinæum was much elongated but not injured, the head of the child being very large. The placenta was soon expelled, and our patient did well. As frequently happens in cases of ecclampsia, the child was dead.

There was no recurrence of the convulsions. In puerperal convulsions, the indication, after unloading the blood-vessels, is to deliver as soon as it can be done with safety to the mother. In a case like the above, the long forceps is the only means which gives the least chance to the child. Were we deprived of them, we should in an urgent case be obliged to employ the perforator; the short forceps would be utterly useless.

ARTICLE IV.

Observations on the Distilled Water of the Prunus Lauro-Cerasus, in Facial Neuralgia. By E. S. Bennett, M.D. of Charleston, South Carolina.

In the Baltimore Medical and Surgical Journal, for July, 1834, my attention was arrested by an article written by an Italian physician, (Dr. Broglia,) highly extolling the remedial virtues of the cherry laurel,—prunus lauro-cerasus, in neuralgia. This article of Dr. B. was gratifying to me, as I have had some experience in the use of the article in several forms of nervous affections, and have been pleased with its effects. The form in which I had used it, however, was in tincture. The preparation recommended by Dr. B. is very simple, and can be employed with perfect safety. I took some trouble in procuring the article, and resolved to try its effects upon any case falling under my immediate care. I am now gratified in being able to offer the results of the experiments, assured that this medicine will be found highly serviceable in relieving suffering humanity from some of its severest pangs.

Case I. On the morning of 10th November, 1834, I was requested to see a lady of nervous temperament, who was suffering severely from violent pain of the face and teeth, and which she attributed to some diseased molares on the side affected. After examination, I was assured, from the symptoms, &c. that her disease was not odontalgia, as at first supposed, but that it was a violent facial neuralgia. The pain was not continued, but periodical. It extended from near the external meatus, along the course of the nerve, to the alæ of the nose, the corner of the mouth, the external canthus of the eye, and over the temple, to the forehead. Sometimes, also, a pang would seize her near the inferior border of the eye, and with the rapidity of lightning, run down the side of the nose, along the teeth, and thence to the temple. From these circumstances I inferred that the disease was located in the portio dura, and the second branch of the fifth pair, or trigeminus. This lady had been suffering with this affection, at every change of weather, for three years. The present attack had been constant for several weeks, and at no time was she entirely free from pain, more or less severe. The pain was, however, generally very violent from about 4 P.M. until near the middle of the following day. It may not be amiss here to mention that she had, for several years, suffered from dyspepsia, which had greatly undermined her general health. Not regarding this latter malady for the present, I directed my attention to the immediate relief of this very painful affection. Accordingly I sent her the following:—R. aquæ. distil. lauro. ceras. ℥ iv; ether sulph. ℥ i; extract. atro. belladon. ʒ i; ft. lotio. the painful part to be covered with a compress of carded cotton, wet with this mixture, and repeated whenever it became dry. These directions were carefully followed, and at my next visit, 7 o'clock P.M., she had applied six compresses. She was at this time more free from pain, but suffered from extreme tenderness of that side of the face. Directed the lotion to be repeated.

Nov. 11th, 10 o'clock A.M. More free from pain, and the tenderness of the face but trifling—had enjoyed six hours of very quiet and refreshing sleep, and had used three applications. 7 F.M. free from pain and soreness of the face, and expressed an earnest desire to remove the applications. They were, however, followed up, pro re nata, through the evening, and from that time she has not experienced any kind of inconvenience.

Case II. A gentleman called on me, suffering very greatly from violent pain in his face and teeth, for which he had had several teeth extracted, but without relief. His sufferings were very severe; and, as the portio dura was manifestly the seat of disease, I resolved to test the question, whether the cure depended upon the lauro-ceras. alone, or upon the narcotic power of the atrop. belladonna. I gave him, therefore, the following:—R. aq. lauro-ceras. ℥ iv; eth. sulph. ℥ i; ft. lotio.: a piece of cotton wadding, large enough to cover the face, to be wet with this mixture, and applied to the face, and renewed as it became dry. This case came under treatment on 1st December, 1834.

This gentleman called on me on the morning of the 2d December, without any application to his face, and stated that he was as free from pain as he had ever been in his life—and from that time to the present has enjoyed an uninterrupted course of health. In this case, it will appear that the lauro-cerasus was as effectual as when combined with the atrop. bella.

Case III. A lady of nervous temperament called at my office, on 20th December, 1834, suffering, as she supposed, from violent odontalgia, of some standing, for which she requested the extraction of several molares. Differing from her as to the nature of her disease, I declined extracting her teeth. This lady had been treated for this affection, by a highly respectable practitioner of our city. Bleeding and free purgation, cataplasms, leeches, warm fomentations, &c., were resorted to without relief. Hearing of the success of Case I, she placed herself in my hands. Upon a careful examination I traced the following symptoms: violent burning pain arising a little below the orbit of the eye, and extending down the side of the nose to the upper lip and teeth, thence outward and upward to the temple, and the anterior face of the external meatus, downwards to the ramus of the inferior maxillary, and forward and inward to its symphisis. At times the tongue also participated in the suffering. I inferred the disease to be located in the second and third branches of the trigeminus. I directed the following: R. aq. lauro-ceras. ℥ iv; sulph. eth. ℥ i; to be used as in preceding cases. At the expiration of sixteen hours she had experienced some mitigation of the severity of suffering, but still experienced considerable pain. I directed the lotion to be repeated, with ʒ ss. extract. belladonna.

Dec. 21, 5 p.m. My patient was very much relieved from suffering, but complained of soreness, &c., over the surface of the skin, which gradually subsided, and in the course of three days was perfectly cured.

I could go on to the recital of several cases more, of similar character and results, but I deem these sufficient to test the virtues of the remedy, which I confidently recommend to the profession.

The preparation of the distilled water of the prunus lauroceras. which I have used, was prepared by Messrs. Caulin & Harper, of this city, who assure me that the water of the first distillation is what they have prepared for me, which is fully adequate to the purposes intended. Indeed, no benefit could be experienced by a further distillation, as the oil which would float upon its surface could not with propriety be resorted to.

Charleston, March 4, 1835.

[It is matter of regret that the prunus lauro-cerasus, which is undoubtedly a valuable article of the materia medica, is not indigenous to our country, and cannot be obtained, except sparingly, from gardens and green-houses, for medicinal use. We are inclined to believe, however, that the prunus Caroliniana, or, as it is commonly called, "*wild orange*," which grows extensively in the Southern states, possesses the same virtues, and might be substituted for the foreign plant. The efficacy of the latter is known to depend upon the prussic acid it contains, and our lamented friend, the late Stephen Elliott, Esq. of Charleston, remarks of the former, "that its leaves are very poisonous, and frequently, in the spring of the year, destroy cattle that are tempted to browse freely on them."—*Sketch of the Botany of South Carolina and Georgia. Vol. i.* 540, *Charleston*, 1821.]

EDITOR.

ARTICLE. V.

Case of Rupture of the Uterus. By A. DUNAN of Baltimore.

I WAS called, on the 17th of March, at 6 o'clock, P.M. to visit Mrs. H. R. aged 38, whom I found affected with slight labour pains. As there was no prospect of delivery being accomplished immediately, I prescribed an anodyne, and visited her again at 10 o'clock.

The pains had increased, and were now very strong. On examination the os tincæ was found well dilated; there was a natural presentation of the head of the child, and every thing seemed to afford a prospect of speedy delivery. About 12 o'clock at night, a sudden cessation of pain took place, attended with rumbling noise in the abdomen. I proceeded immediately to make an examination per vaginam, and was astonished to find a disappearance of the fœtus. Suspecting that rupture of the uterus had taken place, I made an effort to introduce my hand, with the object of searching for the feet, but found the os tincæ so firmly contracted, with a margin of the placenta presenting, that I could not succeed. Mrs. R. continued to experience aching pain in the region of the uterus, until the 19th, at 4 P.M. when she expired.

Sectio Cadaveris.—When the cavity of the abdomen was laid open, a rupture was found occupying the right wall of the uterus, about an inch and a half or two inches above the os tincæ. The child had passed through the rent, and was found lying with its head towards the left abdominal wall of the mother, and its breech towards the right side. The wall of the uterus, on the right side, was much thinned, while the fundus, and the left side were thickened—the whole being in a diseased condition, which had probably existed for some time. The os tincæ was flaccid and rugged, and was likewise in a morbid state.

Mrs. R. had been the mother of four children, all of which were born dead, and on the occasion of the last accouchment preceding the one which terminated fatally, I found the uterus thickened upon one side, and apparently diseased.

I have communicated the case for publication, as one of not very common occurrence, and therefore submit it to the consideration of such of my professional brethren as may deem it worthy their notice.

Baltimore, March 20th, 1835.

SELECTED PAPERS.

Lecture on Continued Fever, by Wm. Stokes, M.D. *delivered at the Medical School, Park street, Dublin.*—Session, 1833–4.

I do not know any disease which it is so difficult to lecture on as fever, as it is almost impossible to give such a description of it as will apply to all or even to the majority of cases. It is very true, its characteristic symptoms are generally present, but nevertheless, its varieties are almost infinite, (if I may use this word.) It varies according to habit, temperament, situation, climate, season, peculiar character of the epidemic, and the numberless complications of local disease. I have already informed you that fevers are general affections of the system, when essential or idiopathic; but are more frequently complicated with local disease in the great cavities, the head, chest, or abdomen; and that many local lesions may exist simultaneously. In some cases they appear very early, but in general they come on during the state of excitement, when the blood is circulated with increased energy, and consequently any organ which is predisposed to disease will be likely to become congested or inflamed. Thus, one patient will suffer from head symptoms, another from affections of the chest, a third from abdominal lesions; and hence the diversity of the symptoms. I have often illustrated this pathology at the Meath Hospital. Indeed, you will scarcely see any two patients affected alike, and this is readily accounted for by the difference of constitution and predisposition to disease. In some instances local lesions are confined to one physiological system, or even to one organ; in others they occupy all the large or splanchnic cavities. The best mode of investigating fever is, to examine the symptoms of what is called typhus, and then to review fever of a nervous type, whose symptoms are chiefly referable to disease in the brain and spinal cord, with their respective nervous connexions; next to notice those fevers in which the respiratory system is affected; and lastly, those in which the digestive canal is chiefly engaged.

The symptoms of typhus may be divided into two classes, the precursory or latent, and the actual or manifest.

The precursory are languor, lassitude, and prostration of strength, a feeling of malaise, without decided pain, sense of chilliness, or coldness along the spine, amounting to shivering or rigors, a sense of weight or confusion of the head, indifference to business or pleasure, disturbed or unrefreshing sleep, frightful dreams, nausea, coated tongue, loss of appetite confined bowels, and abdominal urine. These symptoms continue for three or four days, but in some cases the phenomena come on with great rapidity. This is the case during the prevalence of epidemics, or when the miasm of fever extends its influence over a number of persons crowded together as in gaols or camps. These symptoms have led some to term this stage one of debility; and it certainly bears a close resemblance to the cold stage in intermittent, except that the symptoms are not so violent.

But in some cases typhus is ushered in with symptoms of inflammation. We find the pulse strong and full, the skin hot and dry, the tongue coated, great thirst, and what many would call symptoms of inflammatory fever. The medical attendant employs bleeding, but this very seldom stops the disease. It may modify symptoms, but it will not arrest the complaint. It is a very important question how far bleeding is necessary in typhus, and this I shall fully examine when describing the treatment. Some allege that the blood is redder than usual, and buffed, and in other cases the clot is of a dark color, easily broken up, and unbuffed. It is important to inform you that, whether bleeding is employed or not, the pulse begins to change about the third or fourth day, and all signs of inflammation disappear.

A train of nervous symptoms now come on, such as anxiety, restlessness, intense pain in the head, tinnitus aurium, throbbing of the temporal and carotid arteries, suffused or ferretty redness of the eyes, more or less delirium, dry, brown tongue, laborious breathing, urine scanty, and alvine dejections depraved. The symptoms are increased towards the evening. In general the symptoms are diminished towards the morning, or to speak technically, there are remissions in some cases; the symptoms are aggravated on alternate days, so as to resemble a double tertian. In general the skin is dry, though I have had cases under my care in the Meath Hospital, in which there was profuse perspiration, and these were usually tedious. In the majority of cases, however, the skin remains dry through the whole course of the disease. There is another symptom very common in fever in this country, and that is, the appearance of purplish spots on the skin, technically called petechiæ. We seldom see this appearance in inflammatory fever, or when fever is symptomatic of local disease; and it is very seldom seen in any of the London hospitals. This is ascribed to the difference of diet in the different countries. Petechiæ may appear very early, but are generally observed towards the close of the disease. We very rarely see petechiæ in cerebritis, pneumonitis, or gastro-enteritis. But it is very remarkable, that when these diseases are excited during the progress of fever, petechiæ are extremely common.

As the disease advances, prostration of the vital power is more manifest. The features are collapsed, the patient sighs frequently, or he is in a state of stupor; the pulse is small, soft, and easily arrested; the eyes are glazed, red, and suffused with tears; questions are answered with impatience; the nostrils are obstructed with mucus, and frequent attempts are made to remove it; deafness comes on; the features are sharpened, the tongue is dry, brown, sometimes almost black; the lips and tongue are chapped, and covered with a brown sordes; there is an inability to protrude the tongue; it may be moist throughout the whole disease, or red and tremulous, and in the latter case there is generally gastro-intestinal irritation. It is, however, a well known fact, that we may have the last disease without the state of the tongue just mentioned. If you were guided by the state of the tongue alone in fever, you would be frequently mistaken. I have stated on a former occasion, you should observe the tongue in fever more as an indication of the general state of the system than of the state of the gastro-intestinal mucous membrane. In fact you may have extensive disease of the membrane without any change in the appearance of the tongue, and the. reverse. I have seen extensive disease of the mucous membrane of the digestive tube, without any morbid condition of the tongue. Experience has also confirmed the fact, that the tongue when red, dry, and chapped, will turn pale, and become moist after the exhibition of wine, ammonia and stimulants; but this is not always the result. Now, in such cases were you to judge from the state of the tongue alone, you should suppose there was gastro-intestinal irritation or inflammation, and that stimulants would prove injurious. In idiopathic enteritis, stimulants would unquestionably aggravate the disease.

In general there is thirst, and the patient wishes for cold, though sometimes for warm drinks. There is sometimes a perspiration, or clammy sweat, with a peculiar odour; there may be diarrhœa, though in general there is constipation. Towards the end of the disease, the abdomen swells suddenly, and becomes tympanitic, or it may become soft and flaccid, and pressure may or may not remove the pain. The state of the urine varies very much, and scarcely affords any diagnostic signs. But you should always remember that the bladder may be distended, and require the use of catheters for twelve or fourteen days, or even more. In other cases the urine and fœces are passed involuntarily. This occurs during sleep at first, but after some time while the patient is awake. It is manifest that all these symptoms shew that the whole functions are very imperfectly performed.

The sinking or state of prostration is called by some the stage of collapse; and when this is fairly established, which it generally is from the twelfth to the fifteenth day, the patient lies on his back, with inferior extremities drawn up and separated, and his trunk is frequently sliding down in the bed; deglutition and respiration become more and more difficult; the eye is dull and vacant; the eye-lids are half closed, and the eye-ball is turned upwards; the pulse sinks, is irregular or intermittent; hiccup comes on; there are subsultus tendinum, convulsive motion of the muscles of the face and different parts of the body, and hemorrhage of the mouth, gums, nose, stomach, bowels, or bladder. The extremities become cold and covered with a viscid sweat; bad sores appear on the hips and loins, and these are surrounded by erysipelous, and then become mortified; the hiccup increases to a distressing extent; the eye is glazed, the jaw falls, the features change and become hippocratic; convulsions or stupor comes on; a tracheal rattle sets in, and the patient, before dissolution, exhibits a most distressing scene of misery.

Such are the principal symptoms of typhus, but they vary in different cases. It is also clear that the prognosis must vary. In general, when all the body symptoms are present, such as characterize the stage of collapse, the prognosis is unfavorable, but recovery may happen in such cases. The worst symptoms are those which indicate lesion of the nervous power, and also of the fluids. Delirium, coma, subsultus tendinum, spasm, petechiæ, and hemorrhages, are formidable symptoms. It has been frequently proved that the worst form of typhus is caused by a concentrated number of persons being crowded together in gaols, ships, or hospitals. In such cases, we also observe symptoms of local inflammation. The older writers described gaol, hospital, and ship fevers as extremely fatal. I mentioned on a former occasion that, according to the experiments of MM. Gaspard and Magendie, typhoid fever was produced by the injection of putrid matter into the veins of animals. They also observed that the more concentrated the poison, the more closely did the fever resemble typhus, and the more violent and extensive were the local inflammation. We can therefore understand, that if the result be more violent according to the concentration of the poison, why hospital and gaol fevers were so fatal in former times, when there was no attention paid to ventilation, and consider an excess in quantity and concentration in virulence, of the typhus poison, the real cause of the malignance of low fever. We have a further proof of the validity of this conclusion afforded by the fact, that in camp fever, when the camp was broken up, and the army separated into different parties, the fever rapidly disappeared.

There is one symptom on which I wish to make a few observations, before I proceed to analyse all the rest, and that is petechiæ; some suppose petechiæ to be analogous to the exanthemata, an attempt of nature to relieve the disease by revulsion. The general opinion is, that these spots are caused by a weakened state of the capillaries of the skin, and a dissolved state of the blood, and that they resemble ecchymosis. I think there can be no doubt that petechiæ in some cases are analogous to exanthematous diseases. They sometimes occur very early, and before there can be an altered condition of the blood, and they even give relief. In such cases they form elivations and desquamate like the former disease. It is also certain that we may see them, without any elivation. Quarine divided them into three classes: the red—the livid—and the black. He considers the red the least dangerous, the dark more so, and the black the worst. The red petechiæ only resemble the exanthemata. Petechiæ are generally very small, but they sometimes become large black spots, and are then called vibicies and maculæ, and resemble purpura hemorahagica. They are justly considered dangerous, and prove that the fluids are changed. But the smaller and redder they are, and the earlier they appear, the more favorable the prognosis. Huxham thought they were sometimes critical; but Pringle is of a different opinion. We have sometimes observed them followed by relief at the Meath Hospital, but have not seen them critical. I need scarcely observe, that persons withstand the violence of fever very differently; one may have a good constitution, and another may be a bad subject.

I shall now direct your attention to the predisposing causes of fever. These are numerous, such as all debilitating causes, as grief, fear, care, excessive exertion of mind or body, bad food or air, want of cleanliness, and a humid state of the weather. It was long observed that the inhabitants of crowded towns who reside in narrow, filthy streets, and who are most exposed to impure air, filth, bad food, and excessive labor, suffer the most severely from fever.

Let us next examine the symptoms of fever, and to do this properly we must arrange them in groups—those of the nervous, respiratory, and digestive systems.

With respect to the nervous symptoms, we observe great prostration of strength, and a diminution of all the functions of the body. This prostration cannot be referred to any local cause. It is called direct prostration, to distinguish it from that which follows local inflammations. These prostrations are totally different, for that which follows after peritonitis is relieved by bleeding, while that attendant on typhus cannot be removed by this remedy, but would be aggravated by it. The next nervous symptoms are restlessness, anxiety, insomnolence, and agitation. The worst of all these symptoms is loss of sleep, for when this is present, though all other symptoms may be trifling, the prognosis is unfavorable; whereas, if the patient sleep well, the disease seldom terminates badly. We may also have frequent varieties of delirium, of which furious and low muttering are the most remarkable. The functions of the brain are very much altered, and hence we observe the muscular power disordered, as evinced by convulsive twitchings, pains, spasms, tremors, subsultus tendinum, and paralysis of the sphincters. All these symptoms shew the prostrate condition of the brain and spinal marrow, and also of the muscular system. I stated that in the commencement of the stage of excitement in fever, the action of the heart and arteries is so violent as to simulate the phenomena of inflammation; but in the last stage, or that of collapse, as it is termed, we find a weakened action of the heart, with a soft, weak, irregular, or intermittent pulse, which can be stopped by a slight pressure with the finger. It is also remarkable, that in those persons whose ordinary pulse is irregular, it becomes regular during fever. Again, there may be a difference between the action of the heart and pulse, and this indicates disease of some internal organ. With regard to the alteration in the blood, I can say but little. That the blood is altered during the progress of fever is very evident; but in what the change consists is unknown. The blood appears natural in the early period of the disease, but is changed as it advances. Were we in possession of exact knowledge of the alteration, it would furnish a most important indication of treatment; but after all that has been written on the subject, it remains as obscure as in past ages. Neither do we know, nor can we duly appreciate the alteration in innervation; and here is another link wanting in our pathology, and, consequently, in our treatment. When we consider that a patient laboring under fever for several days (fifteen or twenty) takes little nutriment, adds little to the circulation, that his supply of blood is deficient, that the respiration, innervation, and secretion are all deranged, we are bound to admit that in such general derangement of the whole functions, the blood in common with the other fluids and solids must be greatly altered from its normal condition. This conclusion has led some to broach a hypothesis, that the alteration in, or morbid condition of the blood, is the proximate cause of fever; but I agree with the majority, who think that it is the effect and not the cause of the disease.

With respect to the respiratory system, we find it also deranged, and presenting many symptoms in fever. We need only call to mind the normal condition of respiration to appreciate the abnormal. We observe slow or hurried breathing, cough, dyspnœa and other signs of organic lesion, which are precisely determined by the stethoscope. We may also see laborious breathing arising from disorder of function—a nervous dyspnœa, which auscultation confirms. I have to observe that hurried breathing is, in general, a dangerous symptom in fever. In some instances we have cough, dyspnœa, pneumonia, and spitting of blood; and we can now discover, by means of the stethoscope, the morbid conditions which give rise to them. Whenever the breathing is laborious, difficult, or hurried, there is, in general, some morbid lesion, and in such cases auscultation is of great value. Before the application of this diagnostic, many patients were supposed to have died of fever, but in reality they died of latent bronchitis or pneumonia. It is easy to prove the validity of this statement. Thus, suppose a patient in fever was delirious, and had some cough, the older practitioners would treat the former symptoms, prescribe for the cough, but they would overlook the morbid state which gave rise to it. He would go on for days, and often without any serious affection of the respiration, or without having complained of the chest; but on dissection, the bronchial membrane or the tissue of the lung would be found inflamed. I would strongly advise you, in all cases of fever where the breathing is affected, to apply the stethoscope, so as to ascertain the exact conditions of the organs and tissues in the chest; and then you will not, like the great bulk of your predecessors, be prescribing for names, but for diseases.

We should next examine the digestive organs, as these are very much affected by fever. The lips are dry, parched, and often chapped, and, as well as the teeth and gums, are often covered with a brown or blackish sordes; the gums are red and dry, the tongue is white, dry or moist, or red and glazed, white or brown in the centre, red at the edges, and sometimes becoming very dry and black; the papillæ may be enlarged, elevated, and prominent, and as the fever advances, there is an inability to protrude the tongue; it, in common with all the muscular system, has its functions diminished. In some cases the tongue remains moist and white, unaccompanied by thirst; but in most cases this last symptom is urgent. The appetite is prostrate, and in some cases there is nausea, vomiting, or hiccup. The patient often requires cold drinks, which he relishes; but others have no thirst, and drink only when requested. There may be bilious or coffee-colored vomiting; the alvine dejections are also varied. These may be fluid, of different colors—brown, black, green, white, or yellow—with an offensive odour, or they may be solid and scybalous. There is also a great tendency to diarrhœa, though constipation is sometimes present. We also notice eructations, or borborygmi and tympanitis; and sometimes jaundice, which is generally an unfavorable symptom. You now clearly perceive the importance of carefully examining analytically in review, the organs in the head, chest and abdomen. Experience and recent investigations have established the pathological fact, that the organs in the head, chest, and abdomen may be inflamed, congested, or otherwise diseased in fever, and that these alterations are the effects, and not the causes of the disease. We cannot assent to the theory of Clutterbuck, that the seat of fever is exclusively in the brain, for alterations in this organ no more explain the nature of typhus than lesions of the respiratory or digestive system. It has been repeatedly demonstrated that the lesions of the brain are by no means constant in their appearance, that there is a great variety in their locality and extent, and that the morbid appearances after death do not always correspond with the symptoms observed during life. If lesions in the brain were the cause of fever, we should expect to find them as invariably as those of the lungs in the fever of pneumonia, or of the digestive system in gastro-enteritis. But this is not the case. Again, there may be intense headache or delirium in typhus, with slight cerebral derangement; and we meet with extensive disease of the brain in fever, though the nervous symptoms are but slightly marked. We have, therefore, a character which should be present did typhus depend on disease in the brain. We also very often remark, that the symptoms of typhus precede those characteristic of irritation or inflammation of the brain. We often see patients in typhus who go on for days without symptoms of cerebral disease; but towards the termination of their illness, will have symptoms of cerebral disease. The fact is, as I have already endeavored to impress upon your memories, that in cases presenting a similarity, nay, almost an identity of symptoms, there is the greatest possible variety in the nature, seat, and extent of the organic alterations. The same symptoms may exist in two different patients; in some there will be organic lesions, in others none whatever. In fine, we observe the same state of cerebral lesions in those who had no symptom of typhus, as in those in which all the symptoms had existed. If we admit these facts, and I think they cannot be denied, we must reject the theory of Dr. Clutterbuck. The conclusion of the ablest modern pathologists is, that in idiopathic or essential fevers, every nervous symptom may occur independently of any appreciable lesion in the brain, nerves, or spinal cord; that the conditions of the nervous centres cannot explain after death the symptoms during life; and that the nervous symptoms, in particular, cannot be referred in many instances to organic lesion of the brain. It has been long known that the nervous symptoms subside under a plan of treatment which would be destructive if they depended on inflammation of the brain. Thus delirium, coma, subsultus tendinum and spasmodic twitchings, are readily removed by stimulants, such as ammonia, wine, opium, &c. which could not possibly happen had these symptoms depended upon inflammation of the brain or its membranes. Here, then, is a powerful fact against the theory of Dr. Clutterbuck, and one confirmed by the experience of every observant practitioner. I have already shewn the fallacy of Broussais' doctrine, and need not again advert to it.

It is important to state that the nervous symptoms in typhus indicate that the fever is of a dangerous character, though not dependant on organic lesions of the brain or its membranes. There may be slight or severe headache, purely sympathetic of derangement in the digestive tube, but unaccompanied by the usual symptoms of cerebritis or meningitis. It may even be accompanied by throbbing of the arteries of the head and neck, without being caused by cerebral lesion. The age, the configuration of the head, the aspect of the countenance, eyes, &c., will often enable us to form an accurate diagnosis, though there are some cases in which it is extremely difficult, if not impossible, to be satisfied whether the symptoms are purely nervous, or caused by increased vascular action.

The treatment of headache must be modified according to circumstances. In those fevers in which signs of cerebral lesion are absent, and the patient complains of headache, we remove the hair, or at all events have it cut short, and order cold applications. This plan is generally successful, except in those cases in which there is great heat of the scalp, and throbbing of the arteries of the head and neck. The bowels are to be regulated as a matter of course, and a foot-bath, with the addition of mustard or table-salt, is a valuable remedy. When these means fail, we should order the head to be shaved, leeches to be applied behind the ears and over the temples, and very cold or iced lotions to the scalp. These measures in general succeed, and on this account some practitioners suppose that the headache depends on inflammation of the brain or its membranes. But you remember that I stated, at a former lecture on diseases of the brain, that headache did not depend in all or in many cases on arachnitis, but on an increased sensibility of the affected part; and this may be relieved by antiphlogistic measures. It is also well known that headache and delirium may be symptomatic of disease in the digestive system, and that they will yield to leeches applied over the epigastrium. I have known cases in which leeches, &c. were applied to the head with very slight relief; but when applied over the epigastrium, the headache and delirium subsided. It is now a received fact, that of all the secondary irritations in fever, those of the digestive system are the most common, and that there is the closest sympathy between the digestive and cerebral systems. I should, therefore, advise you when you meet with cases of fever in which any part of the abdomen is pained by pressure, or in which there is diarrhœa or tympanitis with headache, to apply leeches and counter irritation to the abdomen, and ascertain whether you can remove the headache by those remedies; and you will find that your practice will be successful in most cases.

The next symptom to be described is delirium, which I am disposed to think cannot be, when taken alone, considered as caused by inflammation. Before I adduce proofs of this position, I wish to allude to the occurrence of hysterical symptoms in fever. I have observed, even in robust men, fits like hysterical in the commencement of fever. The patient had fits of laughing and crying, speedily succeeded by feverish symptoms, and these were followed by profound typhus. In such cases, I am of opinion that the prognosis is generally unfavorable. Let us now consider the nature of delirium. There are two forms of delirium—the violent or ferocious, and the low or muttering.

The high, violent or ferocious delirium, commences early, and renders the patient very unmanageable; the low comes on towards the termination of the disease. Now, there are cases in which the high delirium supervenes towards the close, and the low appears at the commencement of fever, and in such cases there is a deviation from the ordinary course, and the prognosis is very unfavorable. The older writers on fever looked on delirium as a very dangerous symptom; but more accurate observation has enabled us to know that it is not necessarily a fatal symptom. Louis has thrown great light on this subject, by contrasting the states of the brain in twenty-four patients, twelve of whom had little or no delirium, and twelve had it severely. He places the results of his observations in two tables.

In the first table he placed the morbid appearances of those who had had no delirium; and in four autopsies there was slight redness in the corticle substance of the brain; in one inflammation of the optic thalamus; in one slight softening of the brain, and in the other six the brain was perfectly healthy.

In the second table relating to the lesions in those who had suffered from violent delirium, the following were the morbid appearances. In five the cortical substance was slightly vascular; in one there was slight softening; in one livid injection of the brain and its membranes; in the remaining five, the brain and membranes were healthy. Now, you observe, that the morbid appearances recorded in both tables are so similar, in the cases accompanied and unaccompanied by delirium, that no inference as to the exact condition of the brain, which gives rise to delirium, can be correctly deduced. MM. Louis and Andral have also described four dissections, two each, in which there was induration of the brain attended by delirium, and two without this symptom; and in two there was coma with stupor. From these facts we may justly conclude, that inflammation of the brain does not cause delirium; nor does this last symptom imply any particular affection of the brain. It is right, however, to remember, that inflammation of the brain may, and generally is, accompanied by high delirium; and that low delirium may supervene after the freest use of antiphlogistics in acute inflammation of the head, chest, or abdomen; that the one kind is remediable by depletion and depressing remedies; and the other by stimulants.

In forming an opinion on the cause of delirium, you should observe the age, sex, habit, &c. as in headache; and also determine whether it depends on the brain or some other organ. When you find heat of the scalp, throbbing of the temporal and cervical arteries, flushed face and other signs of inflammatory or congestive action in the brain, you should employ general and local bleeding, with the cold affusion so judiciously advised by Dr. Abercrombie. I have repeatedly known patients who were for nights without sleep, who suffered from such violent delirium, where the strait waistcoat was employed; but these slept soundly after the cold affusion. In such cases I prefer sinapisms to the feet to blisters, which I consider hazardous. In some cases the delirium is so violent that the strait waistcoat is resorted to. This is an objectionable proceeding, and does much more harm than good. Dr. Cheyne states in his Report of epidemic fever of Ireland, that patients have sunk from exhaustion in struggling with their attendants, and in endeavoring to free themselves from the strait waistcoat. Such restraint is rarely required, and it is much better to allow the delirious patient to get out of bed, walk about the ward, or put on his clothes and sit on the side of the bed, until he becomes quiet and amenable. I think coercion is justifiable only in such cases in which the patient might endanger his life without it.

I stated to you that wine, opium, and other stimulants are administered with advantage, when delirium is present in the last stage of fever. In such cases the tongue will be red, brown or black, dry and glazed, and after the use of stimulants, it will become soft, pale and natural. Now, this fact confirms a position I laid down on a former occasion—that the tongue is rather an index to the state of the whole system, than to any particular part of the intestinal canal. Much diversity of opinion exists as to the use of wine; and it was long supposed that it was improper when the eyes were red and suffused. Dr. Graves holds that it may be given, and is highly beneficial in such cases. He maintains that want of sleep will cause redness and suffusion of the eyes, and that a hot skin with cold extremities, does not contra-indicate the use of wine. He would not advise it in high delirium; but I should be disposed to modify this opinion, and say, it should not be given when the delirium comes on early in fever; but in the advanced stage I have repeatedly seen it do good.

It often happens that the patient is restless, irritable and delirious, and deprived of sleep. In such cases, unless there be determination of blood to the head, we give wine and narcotics with advantage. Dr. Graves well observes, that such a train of symptoms may continue after depletion, purgatives, and blisters, and will yield to opiates. We often succeed by ordering a starch and opiate clyster, composed of two or three ounces of the former, and thirty or forty drops of the latter. The general rule with regard to the use of opium is, that when nervous symptoms continue after the employment of antiphlogistic measures, or when there are no signs of inflammation of the brain, it is highly beneficial. These, and the preceding facts are founded on experience, and not on any theory. There is also another practical conclusion, which is of great importance, and it is this,—that local inflammation in fever is most common in the abdomen, next in the chest, and lastly in the head.

There is another symptom which deserves attention, namely, coma. The patient is in a state of stupor, and sometimes cannot be roused; or he may be roused for a moment, but then falls into his former condition. In such cases, we apply cold to the head, blisters to the neck or scalp, and sinapisms to the feet. Lallemand and Mackintosh mention cases in which boiling water was poured over the lower extremities, and cold applied to the head at the same time, with the best results. We also give wine and musk, when the skin is cool. Such are the sanative means in coma.

I now beg your attention to adynamic fever, or that which is attended with great prostration of the vital powers. Adynamia may be caused by visceral lesions, and removed by antiphlogistic measures; or it may exist without any local inflammation. Now, many practitioners are ignorant of this pathology; and considering debility the cause of low fever, employ stimulants in every case, and sacrifice many at the shrine of ancient dogmatism. It is most essential to decide whether inflammation is the cause, as then proper means must be employed; but should these fail, we must have recourse to stimulants. There are cases in which while you stimulate, you may employ local depletion and counter-irritants at the same time, with great benefit. Here I must remind you of a former remark, that you cannot treat local inflammation in fevers so boldly, as in the idiopathic cases; because you have profound lesion of innervation, and a morbid state of the blood and other fluids. As a general rule, you may bleed in the early stage of fever; but in the advanced, you must prescribe stimulants and tonics. The disciples of Broussais have overlooked this distinction in practice; they considered fever caused by local inflammation, and that stimulants were injurious in any of its stages. They continued the depletory measures, reduced the exhausted strength, being ignorant of the fact, that nutriment may be given to support the strength, while antiphlogistic measures are employed; and that at certain periods of inflammations, stimulants become antiphlogistics. In idiopathic inflammation we cannot continue depletory measures throughout the disease; for after a certain period it loses its effects on the local disease, will weaken the patient if continued, and a cure must be effected by stimulants and tonics. I advise you, even when local inflammation is present in the last stage of fever, to stimulate. It is often difficult to know the exact period when we should change our practice; but this can only be learned by repeated and careful observation.

I shall now place before you an abstract of Dr. Latham's opinions on the use of opium in fever. I must premise, however, that one of the first physicians who tried opium in fever, was the celebrated Sydenham. He observed, that when he gave it after his patient had been purged, it was very beneficial. There is a great diversity of opinion at the present day, as to the administration of this medicine in fever, but there is no doubt that it can be given with advantage in many cases, and will often produce the best effects in the worst forms of typhus.

Dr. Latham observes, "In some cases of fever, the disorder of the sensorium keeps pace with that of other parts; and thus the disease proceeds until it is somewhat advanced, when the harmony between its symptoms is disturbed. Those of the brain outrun the rest. New indications of treatment arise, and if the patient can be saved at all, it must be by opium. Thus the heart and arteries may be full of activity, and every symptom in proportion to it. Remedies are accordingly addressed to the vascular system, and succeed for every purpose they are intended to fulfil, except one. By venesection, or topical bleeding, the general symptoms are relieved, and each organ loses its peculiar distress, but still the delirium continues. With an improved state of the circulation, and of other organs, this condition of the sensorium remains, and to this subsultus tendinum is liable to be added, and the unrestrained passage of the different evacuations."

"In such a case as this," says Dr. Latham, "I have seen a single dose of opium, dexterously administered, change the whole complexion of the disorder in a single night, and place the patient at once in a state of safety. Again, I have seen the sensorial affections incident to fever, which require opium for their cure, manifest themselves in another form. There has been high vascular action from the first, and large depletion has been required to subdue it, and guard particular organs, and especially the brain, from injury. Under such treatment all has gone on successfully, and the patient has reached the point of convalescence, when suddenly (the tongue, pulse, and all other circumstances continuing favorable) some strangeness of manner has arisen, and then the wildest delirium, and then the unrestrained passage of the evacuations. I have known a transition from such a state of convalescence, to such a state of peril, take place in a few hours; and I have known the patient again brought back to a state of convalescence in twenty-four hours, by a moderate dose of opium."

There are three conditions in fever which are benefitted by opium: first, when there is a constant watchfulness; secondly, when inflammation of the brain has been subdued by antiphlogistic measures, but delirium and other nervous symptoms remain; and thirdly, when an excited state of the brain exist without heat of the scalp, throbbing of the arteries of the head, or other inflammatory symptoms. I shall now adduce evidence in support of this statement. Dr. Latham remarks, after noticing affections of the brain in fever, that much light can be thrown upon them by a knowledge of the habits and state of health of individuals, previous to the access of fever. He says:—

"And here I would make one general remark, that by knowing what a man is, and how he lives habitually, the physician often arrives at a much better treatment of his disease. It is trying a man's disease by his health, and a most valuable test it is.

"In healthy and vigorous bodies, there is a certain balance and regularity of function which, even when disease befals them, is seldom lost, but their morbid action is still harmonious and proportional. In them diseases are often severe, but they are generally easy of cure. On the other hand, the weak and valetudinary, who, at the best, are full of jars and incongruities, are obnoxious to the strangest forms of disease, hard to understand, and hard to treat. Now fever, when it happens to a perfectly vigorous and healthy man, is never characterized by any such peculiar affections of the sensorium, as have been mentioned. These are incident, according to my observations, to those only whose habits and mode of living have been calculated to do an abiding injury to the nervous system, and who have been long actually suffering from such an injury. Every class of society has furnished me with instances of this form of fever, and every instance has confirmed the truth of the remark.

"Among the higher and educated classes, there is in this age and country a wonderful striving for all the objects of wealth, and honour, and power. We need only think upon the strife of politics, the hazards of mercantile gambling, and the wear and tear of hard professional toil, to see how many there must be who, from the common business of life, have denied both to their minds and bodies new feelings and impulses, and new susceptibilities to disease. These susceptibilities chiefly belong to the brain and nervous system, and they are apt to come forth in frightful activity, when such men become the subject of fever. The trouble of the brain gets the mastery, as it were, of the disorder of every other part.

"The poor and mean among mankind have the mind overwrought, and the nervous system exhausted by real calamities just as the high and educated by their more refined; and thus they often claim an unenviable approximation to them in the character of their disease.

"To these moral causes," says Dr. Latham, "I will add one physical cause, which is of most extensive influence—the habitual indulgence in spirituous liquors. Individuals who have done a permanent harm to the nervous system by the abuse of spirits, do never, when they become the subject of fever, suffer delirium of the ordinary kind, in which the brain is excited nearly in the same proportion as the blood vessels, and which by remedies addressed to the blood vessels is uniformly controlled; but they suffer a dleirium in which the brain is actuated disproportionately to, and, perhaps, independently of, the blood vessels, and, if curable, to be cured by opium. This I venture to state almost absolutely, and without any exception."

My experience in those cases of fever under my own observation in Dublin, accords with the preceding eloquent and philosophical remarks. I have invariably observed, that in all cases where the patient had been exposed to the depressing effects which high intellectual or moral excitement, or the abuse of spirituous liquors produces on the nervous system, there will be, during the progress of fever, more or less cerebral disorder. In such cases, if delirium exists independently of vascular action, opium is the best remedy. A good deal of caution is required in regulating the quantity to be administered; and we should carefully feel our way by commencing with small doses, and when we find that these do good, we should increase them. It would not be safe in most cases to exhibit such large doses as we do in delirium tremens. We would begin with small doses, watch their effects, and repeat or discontinue the medicine, according to circumstances.—*Lond. Med. and Surg. Journal.*

(To be continued.)

REVIEWS.

> Admonere voluimus, non mordere.——
> Sunt bona; sunt quædam mediocria, sunt mala plura.

The Croonian Lectures, delivered at the Royal College of Physicians, in 1833, *on Cholera.* By GEORGE LEITH ROUPELL, M D. of London.

IF the untiring zeal—the patient and persevering research which have characterized, in an eminent degree, the investigations of the medical profession in relation to the nature of cholera, had been attended by a corresponding degree of success, we should have arrived, long since, at a perfect understanding of its mysterious character. But, unfortunately, shrouded in an apparently impenetrable obscurity, it has defied, as yet, the scrutiny of the most learned and talented of our profession. The most eminent physicians, with a self-devotion above all commendation, have thrown themselves, in vain, amidst the wretched victims of the disease, encountering every risk, and in innumerable instances, incurring almost the certainty of death themselves in order to study and unfold its nature.

Bursting upon us with the suddenness and violence of a tornado, it swept across our continent with almost unexampled rapidity—carrying death and consternation in its track. Having passed, however, it was fondly hoped by many that it would not again appear; but that, like some fierce monster, whom inordinate hunger has compelled to trespass far beyond his usual haunts, it would retire to its proper home—India, and no longer molest us. This expectation has, unfortunately, proved delusive, the disease has reappeared in many places, and recently among ourselves, selecting too its victims from among the temperate and most respectable classes. Compelled then to anticipate its reappearance among us, as often as there shall arise that concurrence of circumstances—whatever they are—which conspire to produce it, we are impelled by the most cogent considerations, to seek and disseminate all the information within our reach in relation to it.

Among those whose talents and opportunities afforded the means of accurate and extensive observation, Dr. Roupell must be numbered; having held the appointment of Physician in charge of the cholera patients at St. Bartholomew's Hospital—and of Physician to the floating Hospital for seamen, the Dreadnought, besides being a member of the city of London Board of Health. Actuated by a desire "to communicate to the profession any facts that may appear interesting or important," he selected cholera as the subject of the Croonian lectures which he had been appointed to deliver at the Royal College of Physicians, and which he has subsequently published, "trusting," he says, "that what I have found serviceable in my practice, will prove equally so in the practice of others, and claiming only the merit of stating with impartiality and good faith, the result of my observation and experience."

After glancing at the origin of the most important epidemics—the plague, sweating sickness, measles, &c. &c. Dr. R. enters upon the consideration of the progress of cholera in England. The term *spasmodic*, he rejects, preferring that of *malignant*, because, "first, of its fatal tendency—next, because English cholera is spasmodic, and thirdly, because the more severe form of the disease is not attended by spasms." The objection is certainly valid, and might indeed have been extended to the appellation, "cholera," so far as it is used to convey an idea of the symptoms or nature of the malady. Precision is certainly desirable in affixing names to diseases; but it is now too late to substitute a new one for the disease in question, and the designation, almost universally applied, of "cholera," seems quite sufficient, without prefixing any epithet whatever.

The generally received opinion that the disease originated in 1817, at Jessore, Dr. R. does not concur in, but believes that a disorder described by Mr. Curtis in the Madrass reports, which prevailed in the year 1782, in the squadron of Sir Edward Hughes, then stationed in the East, and which arose from communication with an infected port of Ceylon, was identical with the disease now known as cholera. That the conclusion is correct there can be no doubt we think, after reading the passages quoted, describing the disease.

The different theories in relation to the cause and propagation of the disease are briefly adverted to, but the Doctor declines entering upon the discussion of its contagion, though he intimates in no very equivocal terms, his own conviction of the affirmative of the question. Many interesting statistical details are given, according to which it appears that the proportion of deaths in Great Britain has been about in the ratio of 1 to every 800 of its population. The rate at which the disease traveled in England was a little over 100 miles in three months,—a progress but slow compared with that in this country. That the disease may be expected to return, Dr. R. seems to entertain no doubt, as it has recurred repeatedly within the fifty years that it has been known in India: between the years 1817 and 1830 it has broken out no less than 650 times in different parts of India, and with very variable degrees of malignancy.

After alluding to the various, and often very contradictory, plans of treatment that have been adopted; whether addressed to the cutaneous structure, such as heat, acupuncture, moxa, &c.—to the respiratory organs, such as the inhalation of different vapors, and of oxygen, chlorine,

&c.—the abstraction or transfusion of blood, &c. and to the almost endless variety of internal remedies, the Doctor takes up the consideration of those means which he thinks experience has most extensively sanctioned, viz: bleeding, emetics, salines, stimulants, purgatives, and sedatives. To venesection he attaches more value than to any other remedy, in the more severe forms of the disease, when resorted to either during the premonitory diarrhœa, or even after it has more clearly developed itself, provided the system be not exhausted by copious discharges. The advantages derived from blood-letting do not depend, however, in Dr. R's opinion, upon the relief afforded to the congested venous system, as generally supposed, but to the check it furnishes to diarrhœa; and various cases are given to sustain this position; his observations on this point have led him to the following inferences:—"1st. That venesection will stop a diarrhœa, when calomel and opium, and an emetic have failed. 2d. That venesection will stop the purging in cholera, before collapse has taken place. 3d. That in collapse, bleeding is of doubtful benefit, if not positively hurtful." To emetics, no great degree of usefulness is allowed, though their occasional exhibition has been beneficial in his hands. Practitioners have been induced, he thinks, to give them undue importance, in consequence of observing sometimes after their administration, a rise in the pulse, and even the disappearance of the lividity of the skin, but this flattering change in the condition of the patient is usually but transient. Salines afford but little benefit generally, though he has witnessed good effects from their use in a few cases. The employment of stimulants, such as brandy, ether, &c. can only be resorted to with propriety, Dr. R. contends, in the early stage of the disease, when they will often arrest it, and should never be continued, as they often perniciously are, too long. With the view of simply removing the irritating contents of the intestinal canal, purgatives are of essential value,—but should chiefly be given in the commencement of the disease. As to narcotics, "although no remedies are of more consequence when properly directed, none have been more seriously abused," the proper period for their administration is at the commencement of the disease, and then in full doses. Calomel, which, in various doses, has been more extensively used, perhaps, than any other article, receives but little notice from Dr. R.—as a purgative, it has his approbation, but he dissents from those who "chiefly rely on it, in almost unlimited doses." Nor does he consider the constitutional action of mercury an antidote to the disease, even when its influence is produced before collapse occurs—though its appearance must be regarded as an evidence of a favorable condition of the system.

In his third lecture, Dr. Roupell considers the *nature* of cholera, and after alluding to the unsatisfactory efforts of others to elucidate it, with becoming diffidence, gives his own peculiar views. Considering the theories of inflammation, and of congestion of the gastro-intestinal mucous membrane and of an alteration of the secretions, &c. &c. as insufficient to account for the phenomena presented, he expresses his own belief to be, "that the primary cause of the effects witnessed arises from an affection of the nervous system; that the immediate result of this is an irritability of the lymphatic portion of the vascular system, occasioning increased fluid discharges, which exhaust the system, and prove eventually fatal. The depression of the sanguiferous system is not the first step in the disease, for although the pulse is in general depressed, yet it by no means is invariably so, for cases are occasionally met in which copious and characteristic dejections are found while the pulse continues good." That the nervous system is first affected, Dr. R. thinks is proved by the cramps of the calves of the legs, arms, hands, &c. which so often occur in medical and other attendants when they first approach the sick. The fluids effused in cholera, Dr. R. affirms, are not simple serum, and differ essentially from that secretion which is produced by active irritation of minute vessels. "It contains a coagulating part; fibrine is suspended in it; its appearance is milky;—circumstances which distinguish it from simple serous effusion; but in each point in which it differs from serum, it approaches to the usual contents of the lymphatic vessels." Dr. R. denies that the copious discharges poured out by the bowels could be supplied by the blood vessels, as that would imply an excitement of the sanguiferous system, which, on the contrary, is usually paralyzed, in its superficial branches, though cholera proceeds in its course for hours after the suspension of the pulse.

"It is not probable that the profuse discharges poured out in cholera should be furnished from the vessels of a depressed system, to whose contents the discharges, in substance, bear no resemblance; but it is highly probable that these discharges should proceed from the action of the lymphatic system, which derives its energies from the depression of the sanguiferous system, more especially when the discharges are in their nature, as nearly as can be judged, identically the same as the ordinary contents of the lymphatic vessels."

The arguments which the Doctor adduces, to prove that nearly all the phenomena of the disease are explicable upon his views of its nature, our limits do not permit us to notice in detail, nor is it necessary, as their scope may be gathered from what has already been said.

The adaptation of the mode of treatment recommended, to the idea entertained of its nature, form the conclusion of the volume.

"In the premonitory stage, calomel, opium, brandy and other stimulants may be exhibited, when only the nervous extremities are affected, or determination be only slightly occasioned; this may blunt the impressions, and thus render the nerves insensible to the cholera stimulus, or by general excitement of the sanguiferous system the disease may be arrested. Should, however, this determination continue, bleeding must be had recourse to; and this I conceive to act by emptying the vessels, and allowing the increased discharge from the lymphatics to circulate through the veins, instead of being poured out through the bowels; but bleeding will by no means succeed if late resorted to, when the blood is thickened, and has lost ingredients essential to its circulation, and to the vital processes; at that time any diminution in its quantity gives no relief, indeed seems to hasten the fatal result. In complete collapse, emetics and the cold effusion are infinitely the most powerful stimuli, and when the disease is once arrested, salines, I conceive, may be beneficial."

Whatever may be the value of Dr. Roupell's peculiar views of the nature of cholera, and of the mode of treatment advocated by him—and it is not our design to comment upon them—but one opinion, we think, can be entertained as to the propriety of disseminating every item of intelligence respecting it, which comes from a respectable source, even if it be a mere reiteration of a fact already known, as the medical profession are far from having arrived at any settled opinion, as to either its nature or treatment, and it becomes a matter, therefore, of no small importance to possess the accumulated experience of all who have had extensive opportunities of observation.

The ardour with which the subject was investigated at first, has certainly greatly abated, nor is it surprising, when we recollect how much time and talent have been directed to it, with so little reward—for human ingenuity has been tortured to the utmost, and volumes almost without number written, to unravel the mysteries of this dreadful scourge, which, like another Sphinx, has as yet eluded explanation. The anticipation, however, of its frequent reappearance, should operate as an incentive to renewed efforts. Let us hope that an Œdipus may yet appear to solve the enigma, and free us from doubt and apprehension. J. P. C.

The American Cyclopedia of Practical Medicine and Surgery; a digest of Medical Literature. Edited by Isaac Hays, M.D. Surgeon to Wills' Hospital, &c. &c. Part VI. pp. 120. Carey, Lea & Blanchard, Philadelphia, January, 1835.

We recur with sincere gratification to the examination of this truly valuable work, and our only regret is, that we are not able to do so oftener, on account of the intervals which necessarily intervene between the appearance of the several numbers. This delay, however, which we know is unavoidable, detracts nothing from the value of the work, but on the contrary enhances it, by allowing the several contributors more time to elaborate and digest their articles, than they could have, were they hurried through the press. There is perhaps no species of composition requiring more labour and research, than that which is destined for a cyclopedia, since it is not sufficient that the writer should merely furnish a hasty sketch of his own views and opinions, but it is his duty to make a faithful digest of the opinions of others, and thus present a summary of the amount of information that may exist upon the several topics of which he has to treat. This exacts both time and industry, and we think we may safely appeal to the several numbers of the American Cyclopedia of Practical Medicine, for evidence that these requisites have not been employed in vain. The present number fully sustains the high character established by its predecessors, and we think several of the articles will compare favorably with any others to be found in similar works, on the same topics.

The first article of considerable length, is by Dr. Reynell Coates. It furnishes an ample and satisfactory exposition of the surgical anatomy and diseases of the *ankle*, and contains much valuable practical information. The article *anthrax*, by the same author, furnishes a very good view of the pathology, and of the different modes of practice, pursued in that disease.

The article *antimony*, by Dr. Franklin Bache, is elaborate, and occupies about thirty-five pages. It treats of the chemical and pharmaceutical history of that mineral; its effects on the system and therapeutical application, and its toxicological effects and tests. It is a valuable article, and contains the most recent information on the subject.

The article *anus*, anatomy, physiology, and pathology is the longest in the present number, and will besides occupy a portion of the next. It is by Dr. Reynell Coates, and is highly creditable to the industry and talents of the author. We think, however, its great length is somewhat objectionable, and that its practical value would have suffered nothing, by the omission of some details unnecessarily minute, upon affections of trivial importance. The anatomical and physiological details too, although highly interesting and valuable, as means of illustrating the pathology of the part, are misplaced, as they belong more properly to the article rectum, from which they cannot with propriety be separated.

The sacculi of the anus, situated immediately above the sphincter, which have been alluded to by several anatomists, and noticed by Ribes, are more accurately described in the present article, than they have been before. As this arrangement is important, in relation to fistulæ of the anus, and some other morbid affections, we shall subjoin the author's remarks on this point of anatomy.

"The venerable Emeritus Professor of Anatomy, in the University of Pennsylvania, had been in the habit of noticing in his former annual course of surgical lectures, a peculiar condition of the anus, in which there exist certain well-defined pouches or sacs within the canal, which, by occasionally arresting small portions of fæces, or minute foreign bodies, give rise to great inconvenience, and demand the performance of a peculiar operation for the relief of the patient. Dr. Horner, in prosecuting some examinations, post-mortem, with the view of elucidating this subject, was surprised to find a series of semilunar valvules, within the canal, such as have been hinted at, by certain anatomists, as an occasional occurrence, but the existence of which has been repeatedly denied by others. His attention being once fairly called to this structure, Dr. Horner discovered these valvules in every body which he examined for the purpose, and therefore draws the legitimate conclusion that they are normal and constant. The following description is drawn from the appearances presented by four different preparations, taken promiscuously from a considerable number which the Professor did us the favour to submit to examination."

Immediately below the margin of the internal sphincter we find a series of membranous pockets or sacculi, corresponding in number with the grooves between the columns of the rectum, one of which grooves is directed towards, and terminates in, each of the culs-de-sac. On the outer side, the sacculi are lined by the mucous membrane of the grooves, prolonged into the intervals of the hemispherical eminences already noticed, but which are not sufficiently distinct, after death, to be well represented in a drawing from nature. Internally, or on the side next the canal, the sacculi are completed by portions of loose membrane, which are processes from the reverted integuments lining the canal below. Each of these loose portions is attached at either end to the base of one of the columns of the rectum, and its free margin hangs in a curve between these points, thus forming a purse with the mouth presenting upwards, and resembling, in some degree, one of those formed between the valves of the aorta and the parietes of that vessel. Unlike the sacculi said to be sometimes formed by the intersection of the transverse and longitudinal folds of the rectum near the upper part of the anal canal, these pockets may be compressed, but cannot be obliterated by the distension of the anus. Their number, form, and position must necessarily vary, with those of the columns and swellings, which give them attachment; and, like the columns, some of them are frequently rudimentary. The upper margins of these pockets, taken collectively, appear to form the festoon mentioned by Cruveilhier as the termination of the cuticle."

We have noticed these articles, because they are of greater length than any others in the present nnmber. There are a number of short articles on a diversity of topics, which contain much useful information. The writers are Professor Jackson, and Drs. Griffith, Wood, Bache, and the Editor. We cannot designate the subjects particularly, but shall be obliged to refer to the work itself.

We have so often expressed a favorable opinion of this important enterprise, that it can scarcely be necessary for us to repeat it on the present occasion. Already has it elicited the commendations of some of our transatlantic brethren, and we think the medical public owes it to the editor and the publishers, to come forward in mass, and patronize a work—which promises to be so useful, and to reflect so much honor on the medical profession of our country.

COLLECTANEA.

Apis vero ratio media est; quæ materiam ex floribus agri et horti elicit, sed tamen eam propria facultate vertit et digerit.—Nov. Org.

1. *Researches on the Connection of the Sympathetic Nerves with the Spinal Nerves, by* Dr. C. W. Wulzer, Professor, and Director of the Surgical Clinicum at Bonn.—When Scarpa, in the year 1831, by the important observations concerning the separation of the nerves of sensation from those of motion at that time promulgated, was prevailed on to retract his opinion, publicly expressed so far back as the year 1779, according to which the branches of communication between the spinal and sympathetic nerves are connected with both roots of the former;* I was moved to submit in 1832, and again in 1834, to a reiterated revision, my investigations on the same subject, which were made known in the year 1817. My respected friend, Professor Mueller,† and also Professor Retzius,‡ of Stockholm, undertook the subject at the same time. The former from investigations in calves, the latter in horses, obtained results, which perfectly agree with those yielded by my researches in man. Moreover, in the year 1833, my respected colleague, Professor Mayer, by investigations in man, and in a calf, not only proved the connection of the sympathetic with both roots of the spinal nerves, but has even followed some fibrils of the sympathetic into the spinal marrow, of which he has furnished very instructive delineations.§ In the mean time the subject is so important in a physiological respect, as to make the greatest possible certainty highly desirable, the obtaining of which is the object of my submitting the following contribution:

The anterior slender root of the spinal nerves runs on the anterior side of the thick posterior root, entirely separated from the latter by the ligamentum denticulatum, to the outer or anterior end of the ganglion of the posterior root, to connect itself intimately with the latter immediately before its ganglion.|| This occurs in such a manner that a number of their fibrils, especially the innermost, cross above and beside one another, and soon become so confounded together, that in their further course it is no longer possible to distinguish which fibrils belong to one, and which to the other root. But on the outer surface of both roots, a number of fasciculi remain, which preserve an

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* Antonia Scarpa de Gangliis Nervorum, deque origine et essentia nervi intercostalis, epistola ad H. Weberum, anatomicum Lipsiensem. Mediolani, 1831–2. Annali Universali di Medicina, vol. 58, Milano, 1831. Professor Weber, of Leipsick, has supplied a copy of this treatise, which has appeared as a program to the inaugural dissertations of G. E. H. Mueller, and C. H. E. Herzog, 1831.

† Meckel's Archiv. für Anatomie and Physiol. b. vi., 1832, s. 85.

‡ Meckel's Archiv. b. vi., s. 260.

§ Nov. Act. Acad. Nat. Cur. vol. xvi., p. ii., p. 679, tab. lvi., fig. ii.; et tab. lvii., fig. i.

|| Scarpa's assertion, that the two roots effect their union far below the point of the ganglion, (longe infra eam sedem duas illas radices nexum simul inire,) is so remote from the truth as to be scarcely explicable.

independent course, and do not mix with one another. It is several lines anterior to the point of junction of the two roots, that the nerve which turns towards the sympathetic usually takes its origin; only with some exceptions, it is nearer. The fasciculi of both roots are already so mixed with one another in this place, that for a great part of the fibrils which compose the branch of communication, it is entirely impossible to determine, whether they belong more to the anterior or posterior root. In another part, however, this may be discerned without much trouble. The fasciculi, namely, above mentioned; which run upon the outer surface of both roots, take a part in forming the nerve of communication with the sympathetic nerve; and here it is clearly manifest, that the important communication between the two systems of nerves is accomplished throughout, as well by the anterior as the posterior roots.

It will not be difficult for a person who is accustomed to labors of this nature, to exhibit this disposition of the nervous twigs with the naked eye; one less practised may make the experiment, working with a lens of about four inches focal distance.

When I compare what I published upon this in the year 1817,* with what is here said, I perceive it to be for the most part a repetition; I have found no cause to alter my view in any essential point. The venerable Scarpa, probably, permitted himself to be carried away through his early acknowledgments for the discovery of the separation of the nerves of sensation and of motion, so far as to overturn his own true decision of 1779. When Scarpa, in his last writing, attributes want of carefulness to the work of Adam Schmidt on this subject,† who asserts, that the communicating branch in question arises from the anterior roots of the spinal nerves alone, it must be confessed, that a superficial view tells much in favor of Schmidt's opinion, and so much, at least, is certain, that the communicating branch leaves the system of spinal nerves out of the anterior root, as it requires a more penetrating investigation to be convinced, that the posterior root sends substance to it likewise. If we look at the beautiful drawing furnished by Scarpa,‡ we might believe that it was made merely to support the correctness of Schmidt's opinion. Mayer represents twelve fibrils of the sympathetic nerve, which sink into the anterior root of the second lumbar nerve, and exhibits only two, as producing the conjunction of the posterior root and the ganglion.

If the kind of communication here sketched, be now considered in a physiological aspect, it must be seen, why, for the better explanation of the function of the sympathetic nerve, its communication with the posterior root of the spinal nerves alone should be particularly desirable. We find almost every where the nerves of sensation and motion in such immediate neighborhood, in most places even so intimately united, that no doubt can prevail concerning the reciprocal necessity of the near vicinity of both. The indispensable consent of all the parts of the nervous system imperiously demands the intimate connection of those amongst themselves; why should the sympathetic nerve be an exception from this, whose name justly intimates that this, at least, must be expected in it? Besides, the sympathetic nerve is also destined for the production of motion; the pulsation of the heart, and the peristaltic motion of the intestines last longer than all the other motions of the body. I am of opinion, that for the performance of its functions of this nature, the connexion with the anterior roots of the spinal system of nerves is very essential, for Scarpa's opinion, that the muscular fibrils of the heart, and of the intestines, receive the stimulus to their action not from the nerves, but from contact with the blood, and from the ingesta, seems to me entirely inadmissible. Does not also the important function of secretion which the vegetative nerve presides over, maintain uninterruptedly a peculiar species of motion in all the secretory organs.

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* De Gangliorum Fabrica atque Usu, §. lxxx. p. 95.

† A. Schmidt, de Nervis Bunbalibus, Vindob. 1794, §. xii. p. 19.

‡ Anatomicarum Annotationum. tab. I. Mutinœ. 1799, tab. ii. fig. 1.

The circumstance that the sympathetic nerve is not obedient to our will, would likewise be, in my opinion, not better explained, if this communicated only with the posterior root of the spinal system of nerves. If it be one of the functions of the ganglia, that in them the further passage (*leitung*) of the will's influence should be interrupted, (as I am firmly convinced it is;) for this, the spinal ganglion is not necessary, indeed, to the sympathetic nerve, as this, in itself, possesses for this end ganglia enough, which are disposed in such a series upon its principal chord, (the so called stem,) that the connecting arches coming from the spinal nerves, must pass over immediately into those terminal ganglia. The presence of these latter appears to me, accordingly, to be perfectly sufficient, to explain the degree of independence which exists between the sympathetic nerve and the sensorium commune.

A phenomenon much more difficult of explanation is presented in the fact, that the motor and sensitive nerves having arisen separately from the spinal marrow, soon after their origin are placed in immediate apposition, and by a continued decussation of their finest fibrils enter into most intimate connexion; yet, notwithstanding this, by cutting across the posterior or the anterior roots of the spinal nerves, sensation or motion can be abolished at will. The correctness of this fact has been decidedly ascertained; the experiments which Professor Mueller had the goodness to repeat in my presence, upon frogs, leave no doubt upon my mind with regard to it. Also, since I can, by my own experiments, confirm the observations of Fontana, Prevost, Dumas, Ehrenberg, and J. Mueller, that no where a perfect anastomosis of the substance of the nervous fibrils can be ascertained, but only its immediate apposition can be demonstrated: the question still remains, how, whilst the most intimate contact of the parts of both systems of nerves is preserved, can the separate operation of each be explained? The pleasing comparison of nervous agency with the operations of electricity, which as long as each separate cord of the spinal system of nerves might be reckoned as simultaneously the conductor of sensation and motion, had much in its favor, from this receives a severe blow; for what physician (natural philosopher, *physiker*,) would have it in his power to explain the separate agency of two conductors which stand in the most intimate connexion with one another by means of conducting wires? I am of opinion, that the cellular tissue which lies between the separate cords effects this remarkable isolation of agencies, in somewhat of the same manner, as by means of cellular substance, the separate layers of the intestinal parietes are so separated from one another, that they mutually do not disturb one another in their functions, but that even pathological processes pass with difficulty from one to another. At all events a wide field remains for further investigation with respect to this subject.—*Dublin Journal, Jan.* 1835.

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2. *Observations on the Existence of a proper Fibrous Tunic of the Lung, communicated by* Dr. Stokes.—It has been long taught, that while the pericardium could be demonstrated to be a fibro-serous membrane, at least in that portion not reflected over the heart, the pleura was a serous membrane, between which and the pulmonary tissue nothing intervened, except the sub-serous cellular tissue.

That this opinion is grounded on an imperfect examination of the parts, I have for several years satisfied myself; and I have repeatedly demonstrated the existence of a strong capsule between the serous membrane and the lung, and which completely envelopes this latter organ. In the healthy state, this capsule, though possessing great strength, is *transparent*, a circumstance in which it differs from the fibrous capsule of the pericardium, and which has probably led to the fact of its being heretofore overlooked.

The first instance in which I discovered this membrane, was in dissecting the lung of a patient who had died of a chronic pneumonia. On dividing the organ with a sharp knife, through the pleura, I observed three distinct layers. One the pleura; another apparently the sub-serous cellular tissue, much thickened and hardened; and a third of great density, and nearly opaque. This was the tunic in question. Since then I have several times observed it in the diseased, and also have succeeded in demonstrating it in the healthy lung. But it is always more perceptible in the case of disease, when the tissues are more or less hypertrophied and rendered opaque.

In the healthy lung, however, it is not difficult to exhibit it. The mode which I adopt is the following. A portion of the lung being made to a certain degree tense, by grasping the subjacent parts, so as to inflate the more superficial layer of cells, I make with a sharp scalpel the lightest possible scarification of the figure of an U. This divides the serous membrane, but leaves the fibrous untouched. The lower edge of the serous membrane is then to be seized with a delicate forceps, and by gentle traction, and an occasional division of the sub-serous cellular tissue, a flap of the pleura can be turned up, leaving the air cells still protected by the strong though transparent fibrous coat. The surface of this latter investment, even after the removal of the serous membrane, is still smooth and shining. The knife is now to be carried through the fibrous coat, and it is to be turned back in the same mode. Its great strength is at once apparent, on its being grasped with the forceps, or raised upon the point of the knife, and the surface of the lung then displayed is irregular and fleshy.

This tunic invests the whole of both lungs, covers a portion of the great vessels, and the pericardium seems to be but its continuation, endowed in that particular situation with a still greater degree of strength, for purposes sufficiently obvious. It covers the diaphragm, where it is more opaque, and in connection with the pleura lines the ribs, and turning, forms the mediastina, which thus are shown to consist of four layers, two serous and two fibrous.

This description of the investments of the lung is interesting in a physiological and pathological, as well as an anatomical point of view. It establishes an additional analogy between the lung and the parenchymatous and the glandular organs of the abdomen, which have their fibrous capsules, and illustrates the general law, of the constant association of serous and fibrous membrane, as we see to occur with respect to the arachnoid, pericardium, peritoneum, tunica vaginalis testis, and the synovial capsules. Considered pathologically, it may explain the pain of pleurodynia and pleuritis, and the rarity of perforations of the pleura, so remarkable when considered in connection with the frequency of ulcerations of the lung, which constantly approach so close to the surface as to be bounded by the fibro-serous membrane alone. In pleuritis with effusion, its existence may assist in explaining the binding down of the lung and its corrugated appearance after the removal of the effusion, and as has been suggested to me, it may be the seat of ossifications of the pleura.

Since the above was written, I have been informed that Dr. Hart has demonstrated this tunic, in his anatomical lectures in the Park-street School, and in conversation with that gentleman, I have found that he has held the same opinions as those expressed above, for some years; and it is interesting, that he was first led to the observations of the existence of this tunic, by circumstances similar to those which I have described, namely, the dissection of the lung, which had been affected by chronic pneumonia. He describes it as most strong beneath the costal pleura. It is highly gratifying to me to find that my opinions are corroborated by those of this eminent and philosophical anatomist.—*ib.*

3. *Case of Rupture of the Tendon of the Biceps Flexor Cubiti.* By Sir George Ballingall.—Mr. D. a healthy active man, about 50 years of age, well known to many members of this society as an eminent chemist and druggist, while raising a heavy weight, with the tips of the fingers of his right hand, suddenly felt a snap, accompanied with a numb pain, in the lower part of the arm, a little above the elbow. The weight instantly dropped from his hand, and he was conscious of an inability to use his arm as formerly. On endeavoring to take off his coat, within a few seconds after the accident, he had great difficulty in doing so, owing to the swelling which had already taken place in the arm. On examination, there was observed a large tumour about the middle of the arm, occupying the seat of the belly of the *biceps* muscle. This being considered by Mr. D. as arising from effusion, he had a pretty tight bandage applied. He now felt scarcely any pain, and comparatively little inconvenience in the use of his arm.

Next morning, on removing the bandage and examining the arm carefully, Mr. D's son, a medical man, was of opinion, that the tumour, which had now increased much, arose entirely from the retraction and swelling of the *biceps* itself. In this opinion he was confirmed by finding, that, in the hollow which existed below the tumour, there could be detected a body, apparently the tendon of the *biceps*, which was loose at one extremity, and could be moved from one side to the other with great facility. Bandages were now applied, consisting of two pieces of leather accurately and tightly laced, one on the arm and the other on the fore-arm, with a strap passing from the lower to the upper piece of leather, for the purpose of keeping the arm in the bent position. Owing to the patient using his arm much, the bandages were not kept accurately applied, and after ten or fourteen days they were thrown aside.

The tendon has gradually contracted adhesions to the neighbouring parts; and although there is still considerable swelling of the muscle, and some difference between the form of the two arms, yet the patient can use the arm tolerably well. It is not by any means so strong as formerly, and he cannot make any great exertion with it. He experiences difficulty, and some degree of pain or cramp in attempting to raise a weight with the points of his fingers, and finds the power of pronation considerably impaired in the affected arm.—*Edinburgh Medical and Surgical Journal, January*, 1835.

4. *Tracheotomy.*—The following very extraordinary case, was reported at a recent meeting of the Acadamie Royale de Medécine. A young woman, aged 22, who had been cured of extensive syphilitic ulcers of the throat by the ordinary means, experienced a total loss of voice, and so much difficulty of breathing, that the operation of laryngotomy was resorted to as the only means of affording relief. The division of the crico-thyroid ligament, however, did not give passage to the air, this portion of the larynx being doubtless obliterated by adhesions and false membranes, and it was found necessary to extend the incision downwards, so as to divide several of the cartilaginous rings of the trachea. As soon as this was accomplished, the air passed freely, and respiration was established through the opening. A canula was introduced with the intention of leaving it in the aperture; but as its frequent closure by mucus gave rise to repeated attacks of suffocation, M. Regnoli resolved to excise several rings of the trachea, in order to establish an aperture of sufficient extent, to allow of the uninterrupted passage of the air, and the free exit of the mucous and purulent secretions. Several fruitless attempts were made to re-establish the natural opening of the larynx, by means of probes passed from the artificial opening upwards. The individual had, nevertheless, survived four years at the period of this report, breathing freely through the artificial passage, which she kept open herself by means of a canula. When she closed the tube, she could make herself understood, a small portion of air finding its way into the mouth, through the larynx, which was probably not completely obliterated.—*Revue Medicale, Oct.* 1834.

5. *Purulent Matter found in the centre of a Fibrinous Concretion.*—M. Bricheteau presented a heart affected with aneurism, in the right auricle of which there was a fibrinous tumour as large as an ordinary nut, containing in its centre, consistent purulent matter. The fibrine was disposed in concentric laminæ, similar to the arrangement that is observed in aneurisms of long standing.—*Ib.*

6. *Singular cure of an Anasarca!!!*—The patient was attacked with anasarca and dropsy after typhus fever. His body was completely infiltrated, and he was reduced to a perfect state of inaction. He had tried in vain various remedies, when some one advised him to apply to the abdomen a certain number of the domestic toads, and to second their action with frequent friction.

During three days the patient had recourse to this disgusting application. Thirty-six toads were put on, and renewed every now and then, and the extremities were submitted to powerful friction. On the second day abundant stools were the result of this new remedy. There was alternation, with a copious discharge of urine. The toads were continued with a similar effect, and in a few days the man was cured of both affections.—*Lancet, Dec.* 1834.

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7. *Pulsations in the Abdomen.* By Dr. Stokes.—As a sign of diseased action, throbbing of the abdominal aorta has been long recognized. But its nature in all cases does not seem to have been discovered. It has been described as a nervous phenomenon; as the result of the pressure of tumours on the vessel, and as a symptom of aortitis. It may also be seen in cases of great retraction of the abdomen. But there is a pulsation of the adominal aorta or its immediate vessels, which is symptomatic of inflammatory disease in the digestive system, and which a long experience enables me to say may be considered an important assistance in diagnosis. A throbbing generally commensurate with the disease; removed by treatment calculated to relieve enteric inflammation, and aggravated by every thing which will increase this affection. In other words, we may have from enteritis or peritonitis a throbbing of the abdominal aorta or its vessels, perfectly analogous to the morbid action of the radial artery in whitlow, or of the carotids or temporal arteries in cerebritis.

The cases in which I have most frequently observed this symptom, are those of the gastro-enteric fever of this country; and when we reflect on the latency of the follicular ulcerations of the intestine, and the great number of times that this lesion is overlooked, and exasperated by improper treatment, we must see of what importance the knowledge of any *prominent* symptom must be. I do not say that it occurs in all cases, such is far from the fact; but I know that it occurs in many, and may be made a great assistance in diagnosis.

I have also found it in cases of fever after corrosive poisoning, where the pulse was almost absent at the wrist; and in peritonitis, where no pulse could be felt.

In these cases we have frequently the following group of circumstances: fever, prostration, thirst, tenderness of the epigastrium or the ileo-cœcal region. The pulse at the wrist is often small and feeble, while the abdominal pulsations are comparatively violent. In most cases the other symptoms of gastro intestinal disease are sufficiently plain. But in several instances this want of proportion between the action of the radial, and abdominal arteries, *combined with fever*, has been the principal indication of enteric disease.

As might be expected, the increased action may extend to the femoral arteries. This fact enabled me on one occasion to arrive at an accurate diagnosis. A patient who had been subject to chronic disease of the stomach, was brought into hospital in a dying state. Something, he said, suddenly gave way within him a short time before his admission. His countenance was collapsed; the hands blue, and no pulse could be felt at the wrist. The belly was swelled, but not very tender.

It was suggested that the case might be a rupture of an abdominal aneurism; others supported the opinion that it was an example of peritonitis by perforation: and that the latter diagnosis was the right one, I concluded from the fact, that while no pulse could be felt at the wrist, the femoral arteries at the groin were pulsating strongly. Recollecting also that the patient had laboured under symptoms of chronic gastritis, and that the feeling of giving way was felt first in the left hypochondrium, I concluded that the case was one of peritonitis from a perforating ulcer of the stomach. On dissection, an old circumscribed ulcer of more than an inch in diameter, was found in the great curviture of the stomach. This had perforated the peritoneal coat by an irregular rent. The aorta was healthy.

In some cases we have found that the pulsation was strongest in the direction of the right iliac artery, and subsided with the symptoms of the gastro-enteric fever. We have seen it with and without the occurrence of diarrhœa, and frequently reappearing with relapse, particularly after errors in diet, or hypercatharsis. In some instances it has subsided when the diarrhœa appeared, and returned on its being arrested by an astringent.

The knowledge of this sympathetic pulsation of the great vessels of the abdomen may throw light on the supposed cures of internal aneurism, by the system of Valsalva. It must be recollected that the cause of this pulsation (which is often violent) is most frequently a local inflammation of some part of the digestive system; in other words, an affection likely to be relieved by such a mode of proceeding. Indeed the suggestion of Bertin, that some of these cases were not really examples of aneurism, seems at least so far, highly probable.—*Dublin Journal, July*, 1834.

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8. *Extirpation of the Parotid Gland.* By Dr. M. Eulenberg, of Wriezen on the Oder.—The subject of this case was a female, aged 29, who was affected with a scirrhus of the left parotid gland. When the whole circumference of the tumour had been detached, it was found that a small process, about the size of a hazelnut, extended so profoundly between the deep seated parts, that it could not conveniently be dissected, until the principal part of the tumour was detached. This was accordingly done in order to make room, when a hook was fixed in the small lobe in question, and it was in like manner removed without much difficulty. The operation was performed on the 7th of April, and on the 11th of May, the wound had completely healed, merely leaving the paralysis of the face, which was the necessary consequence of the division of the facial nerve.–*Rust's Mag. für die gesammte Heilkunde,* 1834.

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9. *Extensive Ossification of the Spleen.* By Dr. Julius Schmidt.—The subject of this case was an old drunkard, who died suddenly. The coats of the stomach were found very much thickened, and in attempting to detach numerous adhesions which the spleen had formed with the surrounding parts, its substance, which was preternaturally soft, was broken up by the hand. In the midst of it was found a bony mass, amounting to half the size of the organ.—*Hufeland und Osann Journal für Practisch. Hielkunde, Jan.* 1834.

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10. *Re-union after complete separation.*—The *Osservatore Medico* contains a curious, and what it affirms to be a well authenticated, case of re-union of the nose, after complete separation.

The patient, a woman of the town, had the whole of the soft part of the nose bitten off, in a quarrel, by a man. She was immediately carried before the commissary of police, when the nose was dressed. Three hours afterwards, Dr. Carlizze, who happened to come in, saw the patient, and entreated that search might be made for the lost nose. This was done, and two and a half hours afterwards the mutilated portion was found, contracted, and all covered with filth. The doctor, however, washed the parts clean, and applied the piece, putting in a few points of suture. The dressings were not removed before the seventh day, when the witnesses observed, with great satisfaction, that complete union had taken place. In thirty-seven days the cicatrix was perfectly consolidated. The aspect of the nose, however, was most disagreeable, from the color of its tip, which presented a livid, unhealthy appearance. A solution of nitrate of silver (moderately strong) was applied to this part, and after the fall of the eschar, in five days, the nose resumed its natural colour. [*Lancet*, *Dec.* 1834.

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11. *Method of injecting the Liver, employed by* Mr. Kiernan.—I for some time experienced great difficulty in making successful injections of the minute vessels of the liver; and this difficulty, arising from the presence of blood in the vessels, was increased when my object was to inject the two veins in the same organ, no exit being then left for the blood. Very little advantage is gained by previously injecting warm water, a large portion of which remaining in the vessels dilutes the injection and obstructs its course. The object is to obtain a free passage for the injection through the minute vessels; this can be accomplished only by tying the portal vein and hepatic artery in the living animal, and thus depriving the liver of all its blood. In one minute after the application of the ligature, the liver becomes bloodless, and the sufferings of the animal may be abridged, and regurgitation into the hepatic veins prevented, by dividing the inferior cava near its termination in the right auricle. Before injecting, the body of the animal should be left in water during twenty-four hours, a ligature having been previously placed on the inferior cava, above the diaphragm, to prevent the entrance of the water into the hepatic veins. If the liver be previously prepared in this manner, all the intralobular hepatic veins may be injected with one colour, and all the interlobular portal veins with another, and the course and distribution of each set of vessels may be studied with facility. The various appearances produced by congestion of the liver may be imitated by injection. This method of injecting is equally applicable to every other organ. I made a very successful injection of the portal and hepatic veins in the exsanguine liver of a man who died from the rupture of an aneurism of the abdominal aorta, under the care of Dr. Hope, in the Marylebone Infirmary. In the preparations of this liver, as in those made by injecting the vessels after the ligature of the portal vein and hepatic artery in living animals, the central portions of the lobules are coloured with blue, and the marginal portions with red injection.—*Lond. Med. Gaz.*, *Jan.* 1835.

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12. *Curious effects of Morphia.*—Dr. Bellingeri quotes a case of violent and obstinate hiccup, wherein acetate of morphia was used by sprinkling on a blister raised over the epigastrium. It produced a sensation of compression of the back part of the head: the patient could neither move nor speak: he had lost all sensation: both epididymes tumefied. In the course of an hour these symptoms disappeared, and were replaced by a general and intòlerable itching, particularly of the forehead, nose, chin, and scrotum; at length, after two hours, the itching ceased, and the hiccup was found to be cured.—*London Medical and Surgical Journal*, *Dec.* 1834.

13. *Case of protracted abstinence from Food.*—A woman named Engeltje Van Der Vlies, resident at Pünacker, who professed to have continued for years without food, was in 1826, subjected to the scrutiny of a committee appointed by the Provincial Commission of Physicians established at the Hague. The attempt to induce her to consent to this scrutiny had been frequently made, but she had always refused it, alleging "that it was disagreeable to be watched, that she had no immediate interest in making the world believe it," &c. &c. Piqued by the expression of their disbelief in her power, she at length consented to be watched for a certain time in any manner the commissioner might think proper to order. The mode determined upon was, that four women should remain in the house for four weeks, and should watch, two and two, night and day; the burgomaster of the town, as also the usual medical attendant of Engeltje, were to visit her at all and unexpected times.

The investigation of the watchers commenced on the 11th of November. On that day, during the first watch, she did not sleep; in the second watch, for half an hour only.

12th. Inclined to convulsion; spat considerably; complained of cramp and pain in the side; in night was very restless, and had two convulsive fits; prostration great.

13th. In good spirits: some cramp of stomach; slept soundly in the night.

14th. Had a fit; rinsed her mouth with water; slept in fore part of the night; had two fits early in the morning; flow of saliva constant and great.

15th. Nothing particular.

16th. Severe headache and pain in the throat; rinsed mouth twice.

17th. Attacked with spasms of chest and throat; aphonia; felt uneasy, but soon became better; slept soundly at intervals; rinsed her mouth; worked with her needle.

18th and 19th. Put her feet in warm water; after 5, P. M. was feverish, and had a convulsion; after 9 o'clock dosed at intervals; rinsed mouth once.

20th. Rinsed mouth twice; slept none in the night; otherwise well.

21st. Severe headache in the morning; mouth rinsed twice; slept well in the night; worked during the day.

22nd. Nothing particular; no rinsing.

23rd. Some headache; rinsed mouth once; slept occasionally in the night.

24th. Low spirits; rinsed mouth once; slept soundly in the night.

25th. Pain of chest and abdomen in the forenoon; feet in water; rinsed mouth once; spasms of chest in afternoon; slept tolerably well part of the night, and awoke with headache.

26th. Palpitations of heart in afternoon; worked; pain of side; slept tolerably well.

27th. Low spirits; feet in hot water; no sleep at night.

28th. Nothing particular; tolerable sleep.

29th. Headache; very little sleep.

30th. Rinsed mouth once; slept soundly.

Dec. 1st. Slept a little; rinsed mouth once; constantly at work.

2nd. Rinsed mouth twice; little sleep.

3rd. Headache; feet in water; feverish in afternoon; slept soundly at night.

4th. Pain of chest and throat; nervous from occurrence of a storm; feet in warm water; rinsed mouth once; slept two hours.

5th. Rinsed mouth once; slept little; pains gone.
6th. Headache; rinsed mouth; slept none.
7th. Some pain of side and chest; otherwise well; sleep very little.
8th. Rinsed mouth once; slept a little.
9th. Was well.

During the whole of the above period, Engeltje took no food of any kind whatever. Her occupations consisted in knitting, sewing, cleaning vegetables, and reading. Her mouth was usually rinsed with water, with tea, and twice with buttermilk, the quantities of which were measured before and after rinsing. She made no water, and passed no fæces during the whole month; no air was passed her alvum, but she eructated very much. She got up at nine, A. M., and went to bed at ten or eleven o'clock, P. M.

The commission having taken the deposition on oath of the watchers, concurred in acknowledging that the above was one of those rare cases of organization, wherein a protracted abstinence from food is compatible with the exercise of the functions. Instances of the same kind are related by Haller in his *Elementa Physiologiæ*, vol. vi. p. 171, et seq.; Dictionnaire des Sciences Medicales, Art. *Abstinence;* and Voltelen *Diatribe Medica memorabilem septennis apositæ historiam exhibens*. Lugd. Batav. 1771.

The following is a condensed account of the circumstances, &c. of the subject of the above case.

Engeltje is thirty-nine years old. In her fifth and sixth years she suffered from worms and frequent convulsive fits; she, however, got rid of the worms, but remained in a debilitated condition for several years; in fact, up to her eighteenth year. At this time Napoleon's conscription carried off her brother, which so affected her, that from that time she again became a prey to frequent convulsive fits. At subsequent periods she was treated for hysterical affections and chronic inflammation of the intestines: her appetite was very small. It remained so until May, 1818, when she began to lose the use of her feet, refuse nourishment, and take nothing but drinks, and chiefly of buttermilk: medicines were always rejected immediately after being swallowed. In 1820, the respiration became abstracted. In March, 1822, up to which time the hysteria had been excessive, an enema was administered, which brought away some fæcal matter, after which time no fæces or urine were ever passed, with one exception. She also gradually forbore all fluids, except to rinse her mouth from time to time. In 1824 and 1825, she had repeated attacks of intestinal inflammation. In October of the latter year she passed, with dreadful pain and violent spasmodic respiration, a small quantity of urine and a little stool. And in 1826, again, a little urine, which was tinged with blood. Since the 10th of March, 1822, she has therefore had only one motion, and only twice passed a remarkably small quantity of urine. Her spirits were always inclined to flag, and particularly latterly, when doubts were cast upon the truth of her history. She is of low parents, and has always, until very lately, been a servant in various families.

This account of Engeltje is given by A. Grootenboer, a surgeon who has frequently attended her in her various attacks of sickness. It, as well as the report of the Commission to investigate the case, is dated Dec. 11th, 1826.

Lond. Med. and Surg. Jour. Dec. 1834.

14. *Hydrated Tritoxyde of Iron, an Antidote to Arsenic.*—Hitherto there has not been found any antidote against poisoning by arsenic; that is, there has not been found any substance capable of decomposing the oxydes or arsenical salts, without giving rise to a new compound poisonous itself. Dr. Bunsen, of Göttingen, has just discovered that the hydrated tritoxyde of iron is an antidote to arsenic, and expresses himself respecting it in the following terms:

"For a long time I have been led to the observation, that a solution of arsenous acid is so completely precipitated by pure hydrate of iron recently precipitated, and suspended in water, that a current of sulphuretted hydrogen directed through the filtered liquor, in which there is contained a small quantity of hydrochloric acid, does not point out the least trace of arsenious acid. I have found, besides, that if there be added to this body a few drops of ammonia, and it be digested with a gentle heat with arsenious acid reduced to very fine powder, it very gently transforms this latter substance into combination (*arsenite basique*) with tritoxyde of iron completely insoluble. A series of observations founded on this, has given me the firm persuasion, that this body reunites the most favourable conditions for serving as an antidote to arsenious acid, whether solid or in solution. Dr. Berthold has joined me in examining this subject in all its forms, and in making the most rigorous experiments on it. The results of this examination have surpassed our most anxious expectation, and has confirmed us in the persuasion, that the hydrate of the tritoxyde of iron is a better antidote for arsenious acid, solid or in solution, than albumen is for corrosive sublimate.

"Young dogs, not more than a foot high, to which we had given from four to eight grains of arsenious acid, very finely powdered, and whose œsophagus we had tied to prevent vomiting, have lived more than a week, without offering either symptoms during life, or appearances on a post mortem examination, of poisoning by arsenic. The excrements, which were in very small quantity, seeing that the animals took neither food nor drink, contained almost the whole of the poisonous substance, in the state of an arsenite (*basique*) of the tritoxyde of iron, but presenting no trace of free arsenious acid. We convinced ourselves by experiments upon animals, that a quantity of the hydrate of the tritoxyde of iron, varying from two to four drachms, with sixteen drops of ammonia, are sufficient to transform, in the stomach, from eight to ten grains of well powdered arsenious acid, into an insoluble arsenite. It is easy to conceive that we might, in cases of poisoning by arsenic, administer this substance in much more considerable doses, with or without ammonia, by the mouth or in the form of enema, since the hydrate of the tritoxyde of iron, being completely insoluble in water, absolutely exercises no action on the animal economy."*—*Archives Generales, Oct.* 1834.—*Dublin Journal, Jan.* 1835.

15. *M. Dupuytren.*—This very distinguished operator died in Paris on the 8th of February, after a lingering illness of several months, aged 57. He has

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* From some experiments on the above subject, made by Mr. Kane, it would appear that further investigation is necessary before the conclusions of Dr. Bunsen can be recognized as perfectly correct. On digesting recently precipitated peroxyde of iron in a solution of arsenious acid, for several hours, and at different temperatures, the liquor filtered, in all instances, contained much arsenic. The mixed proto and peroxydes of iron were also tried, and found equally inefficacious in the complete removal of arsenious acid from its solution.

left the reputation of being the first operating surgeon in France, and probably in Europe. Domestic affliction preyed upon his mind for the last few years of his life. He has left Madame Beaumont, his only daughter, a fortune of nearly 7,000,000 francs, besides a legacy of 200,000 francs to found a chair of medico-chirurgical pathology. He has also left 100,000 crowns to found an asylum for twelve aged physicians. The annals of surgery do not afford the name of an individual so extensively known; and it is doubtful whether any man has existed who has performed so many operations in surgery, or who has exerted a greater professional influence throughout the civilized world.—*Boston Med. and Surg. Journal*, March, 1835.

16. *Spina bifida punctured. Fatal termination.* By Dr. Schmidt.—The child which was the subject of this case, was born of healthy parents. At birth, a depression large enough to receive two fingers occupied the situation of the arches of the upper part of the sacrum, and the lower lumbar vertebra. In this depression an accumulation of water gradually formed, which in the course of three weeks assumed the appearance of a convex vesicle, of a reddish blue colour. There was paralysis of both sensation and motion in the lower extremities, which remained in a semiflexed position. The configuration of the head was somewhat peculiar; its sides were flat; the prominence of the forehead formed a kind of angular projection; the fontanelles were very large, and the sutures were open. The sagittal suture was even separated to the extent of a finger's breadth. Notwithstanding all this, the child seemed to be well nourished; slept much, and nursed when awake. The swelling and the paralysis, however, increased daily, and the legs became more and more flexed.

Dr. Schmidt explained to the father, who was very anxious that something should be done for the child, that the only means of relief must consist in a small puncture to let out the fluid; that the operation, although in itself simple, might involve serious consequences, and that if performed, its success would be exceedingly doubtful, on account of the indications that existed of hydrocephalus. He, moreover, expressed his unwillingness to perform it without a previous consultation.

Some time afterwards, on the 14th of May, he called to see the child, and found that the father had on that day made a puncture with a needle, which allowed a yellowish serous fluid to escape in drops. The child, however, continued lively. On the 15th, the puncture having closed, the father renewed it, and after the water had escaped, the surface of the tumour was somewhat corrugated. On the 16th, the child was restless,—was affected with convulsions, and refused to nurse. The tumour and the adjacent parts, to the extent of two inches, were inflamed, and hot to the touch, and all the indications of a general febrile condition were present. These were abated by antiphlogistic means, and the suppurated part was covered with cerate. By this treatment it was reduced to a more healthy appearance, and became somewhat smaller. From the 16th to the 19th the inflammatory symptoms continued to abate, and the child slept considerably, but was so susceptible, that it started from the slightest noise. The bowels having been constipated for two days, some syrup of manna was ordered, the operation of which was followed by a greater state of quietude. Suppuration now manifested itself at the site of the puncture; the convulsions recurred, and the superficial muscles were in an almost constant state of convulsive action. The disposition to sleep increased; the suppuration at the lower point became more profuse, while that above diminished, and the opening became almost closed. After some time the fever augmented, attended with constipation; the tumour became red, hot, and swollen, and things continued in this condition until the second of June, when death took place.

The following phenomena were discovered on dissection: the cranial bones so thin that they could be cut with scissors; many parts of the frontal bone of the size of a bean, were not ossified, and the frontal protuberance remarkably thin, and not entirely solidified. The parietal bones were in the same condition. The brain was of the consistence of pap; on the right side of the foramen magnum there was an appearance of coagulable lymph, and the lower surface of the left hemisphere presented an orange-coloured spot. When the ventricles were opened, about sixteen ounces of transparent yellowish coloured serum escaped, besides a considerable quantity of a yellow coloured material which remained in those cavities. The thoracic and abdominal organs were exsanguined, and there was a small quantity of serum in the pericardium and the right pleura. When the spinal tumour was laid open, a considerable quantity of a purulent-like sanies flowed out, and the spinal marrow, at its lower part was entirely defective, merely leaving the free extremities of the nerves. Above, some vestiges of that organ, of the consistence of pap, were discovered. The membranes of the spinal marrow were preternaturally thickened. The cleft of the spine occupied the two last true, and the whole of the false vertebra. Its length was four inches; its breadth one and a half inches, where it was greatest, which was on a level with the first sacral vertebra. Above and below this point it became gradually narrower.—*Hufeland and Osann Journal für Practischen Heilkunde, June,* 1834.

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17. *Entozooa in the Eye.*—In a memoir recently published by Dr. Anton Gescheidt, on this subject, we find an enumeration of the following species, which he has found in the human eye: 1. four fragments of *Distoma oculi humani*, in the eye of a child, aged five months, which died of tabes mesenterica, and was affected with a capsulo-lenticular cataract. 2. three fragments of *filaria oculi humani,* in the cataractous lens of an old man, aged 61. 3. An Echinococcus hominis, between the lens and choroid coat of the eye of one of the pupils of the institution for the blind, who died of phthisis, aged 24. Other cases are reported, in which entozooa were found in the eye of dogs, a hog, and in the falco lagophus.—*Hecker's Wissenchaftlichen Annalen der gesammten Heilkunde*, *February,* 1834.

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18. *Plan of tying the Internal Mammary Artery.* By M. Bonnafont, Demonstrator of Anatomy at the Hospital of Instruction of Alger.—The internal mammary artery is far from being beyond the action of external bodies. Placed at first behind the superior third of the posterior surface of the sternum, it diverges by degrees from it to run between the fibro-cartilages of this bone and the interval corresponding to the fifth, sixth, seventh, and eighth ribs, where it is distant almost an inch from the external border of the sternum.

Placed immediately on the pleura, covered by the intercostal muscles and the integuments, it may be easily wounded. The calibre of this artery being sufficiently great to produce mortal hemorrhage if wounded, it is of consequence to know how to stop this fatal bleeding by placing a ligature on the artery. The following is the operation recommended:

1st. Cut the integuments down to the external intercostal muscles, to the extent of two inches in lean, and two and a half in fat subjects, beginning at the external border of the sternum, encroaching a little on its external surface, and stretching to the middle of the corresponding intercostal space, following a line parallel to the axis of the ribs.

2nd. Tie carefully the small arterial branches, which might embarrass the operator by the blood which they furnish.

3rd. Cut, by means of a director and straight-bladed bistoury, layer by layer, the external and internal intercostal muscles, taking care, in cutting the latter, to place the director in a sufficiently oblique direction, to avoid wounding the pleura. That being done, the internal mammary artery will be distinctly observed placed between the nerve, which is situated externally, and the vein, which is placed internally, and above the pleura, to which it no where adheres. Nothing is then easier than to place, by means of a crooked needle, or a director a little bent, a ligature on the artery. The wounding of the pleura may be avoided by taking the precaution mentioned above.

As the inferior portion may furnish blood from its anastomosing with the epigastric artery, it may be tied by the same operation in the intercostal space below.—*French Lancet, Aug.* 1834.—*Edinburgh Med. Surg. Jour. Jan.* 1835.

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19. *Some Observations on Phlebolites.* By Dr. John Reid.—The accompanying preparation is a portion of one of the broad ligaments of the uterus, in the veins of which are observed a number of small rounded osseous-looking bodies, which have received the name of Phlebolites. They are described by Beclard in his Anatomie Generale under the chapter on Veins, and by Jules Cloquet in his Pathologie Chirurgicale; but I am not aware of their having been noticed by any English author, though they must have occasionally been seen by those much engaged in dissections. Their presence does not appear to be attended by any bad effects, and they consequently possess little practical importance; but the nature and cause of their formation may, ere long, become an object of considerable interest in physiology, as serving to strengthen or confirm some of the doctrines concerning the living fluids of the body. They cannot be considered as of rare occurrence. I have now seen them in five instances, and four of these have been within the last twelve months. In three of these they were found in the uterine veins; in one (a male) in the vesical veins; and in the present case, both in the vesical and uterine. They varied in size from that of a millet seed to that of a large pea. They varied in number from two to more than a dozen. In all the cases in which I have examined them, they seemed to be placed loose in dilatations of the veins, allowing sufficient space for the blood to pass between them and the coats of the vein. Some of these veins were of very small size in the undilated portions, and required a careful examination to be convinced that they were placed in veins; while others were of sufficient size, as to render this apparent almost at the first glance. The subjects in which I found them were all advanced beyond the middle period of life.

Beclard and Cloquet describe them as being most frequently enclosed in layers of fibrinous matter or coagulated blood; but in all, except in the present case, I have found them without any covering whatever, and in nearly all of them of a bony hardness throughout.

In the preparation before you a very large one may be observed with a clot of blood. Several smaller ones were also observed enveloped in coagulated blood. The spermatic veins in this case, in the branches of which these were deposited, were much enlarged.

According to Cloquet and Beclard, they have been also found in the hæmorrhoidal veins, in the spermatic veins of the male, in the saphenæ veins, and twice in the vena cava inferior. In one of the cases described and delineated by Cloquet, he states, that the smaller ones were formed of a little soft clot of blood; that those of a larger size contained in the centre a nucleus of white fibrinous matter; that the largest had in their centre an osseous-looking nucleus, upon which the white fibrinous matter was arranged in concentric layers, the internal very hard, the others becoming gradually softer as they approached the surface. He also gives a drawing of a round fibrinous mass taken from the vena cava inferior, containing an ossific-looking matter in the centre, from which a number of rays of the same substance passed through the fibrinous matter towards the circumference. Another specimen similar to this was seen by Cloquet in Sœmmering's museum, and was said to have been taken from the vena cava inferior of a child.

I am not aware that the chemical composition of these bodies has been accurately ascertained. Cloquet speaks of them as composed of phosphate of lime, but he does not state that they were analyzed. Mr. Kemp had the kindness to analyze two of them taken from different subjects. He has not yet been able to obtain accurate results; but he states that he is certain that both were principally composed of phosphate of lime, of carbonate of lime, and of animal matter, and that it appeared to him that these earthy salts and animal matter were nearly in the proportions that exist in the bones. He has promised to make a more accurate analysis; and we will then see how far they differ from, or agree with, the osseous texture in their chemical composition. It may also be stated, that the animal matter seemed composed in a great part of gelatine; but this would require farther researches.

It becomes an interesting subject of inquiry, whether these bodies are formed by a deposition of the earthy salts contained in the blood, mixed with some of the animal matter, or whether this depends upon some vital action in the fluids, corresponding to the formation of the osseous texture. Neither Beclard nor Cloquet give any opinion upon the cause of their formation. The fact of their being only found in the depending veins, where the flow of blood is retarded, and the improbability of the formation of any osseous texture in the interior of these vessels, strongly favour the notion of their being merely depositions from the blood, as urinary calculi are from the urine; while the nature of their formation, the gradual conversion of the fibrinous layers into osseous, the radiation of the ossific matter through the fibrinous clots, and their chemical composition (if their similarity to bone is confirmed,) must strongly incline us to ascribe their origin to something more than mere physical or chemical laws. Additional observations, by furnishing more extensive data, may enable us to come to more decisive conclusion on this interesting question.—*Ib.*

UNIVERSITY OF MARYLAND.

At a public commencement held on the 18th of March, the degree of *Doctor of Medicine* was conferred on the following gentlemen respectively:

	Residence.	*Subject of Thesis.*
Samuel G. Baker,	*Maryland,*	De Variola.
Alex. H. Bayly,	*Do.*	On Lues venerea.
Joseph C. Cockey,	*Do.*	On Aneurism.
John Pearson Smith,	*S. Carolina,*	On Cholera Maligna.
Daniel G. Keedy,	*Maryland,*	On Delirium Tremens.
Walter T. Belt,	*D. of Colum.*	On Hemorrhage.
John H. Boarman,	*Maryland,*	On Hepatitis.
William H. Calvert,	*Do.*	On Cathartics.
Theodore Linthicum,	*Do.*	On the Atmosphere, etiologically considered.
George A. Yearly,	*Do.*	On Catarrhus Epidemicus.
J. C. P. Wederstrandt,	*Louisiana,*	On Blenorrhœa.
Richard Harwood,	*Maryland,*	On Phthisis Pulmonalis.
Charles H. Steele,	*Do.*	On Measles.
M. Montrose Pallen.	*Virginia.*	On Spinal Irritation.
James B. Waugh,	*New York,*	On the History of various Pathological Theories.
Alexander H. Bear,	*Virginia,*	On Digestion.
William Power,	*Maryland,*	On Delirium Tremens.
Charles R. McClellan,	*Do.*	On the Fever which appeared at the Baltimore Alms House in the fall of 1833.
Samuel T. Knight,	*Do.*	On Phrenitis.
Charles M. Hitchcock.	*Ohio,*	On the Physiology of the Iris.
George C. Perry,	*Maryland,*	On Hemorrhoids.
John W. Stone,	*Do.*	De Pathologia.
Cadmus Dashiell,	*Do.*	On the Circulation.
William W. Watkins,	*Do.*	On Delirium Tremens.
Benedict J. Gardiner,	*Do.*	On Acute Rheumatism.
Charles Minor,	*Virginia,*	On Medical Observation & Experience.
Peachy H. Gilmer,	*Do.*	On Phrenology.
Nathan H. Crawford,	*Do.*	On Intermittent Fever.
Charles J. Gilleland,	*Pennsylvania.*	On the Catamenia.
James L. Anderson,	*Maryland,*	On the generation of Intestinal Entozoa.
Edward H. Henry,	*Virginia,*	On Cholera Infantum.
John Ch. Nairn,*	*Maryland,*	De natura chemica et medica et de pathologia bilis.

* The medal for the best Latin dissertation was awarded to this gentleman.

Allen Bowie,	*Maryland,*	On Peripneumonia notha.
Creed Thomas,	*Virginia.*	On Scarlet Fever.
Robert H. Archer,	*Maryland,*	On Dysentery.
John F. Price,	*Do.*	On Medical Education.
Charles McCormick,	*D. of Colum.*	On the Study of Medicine.
James G Coombe,	*Do.*	On Spasmodic Cholera.
Thomas A. Healey,	*Maryland,*	On Erysipelas.
William H. Creager,	*Do.*	On the Theories of Conception.
Washington Lyon,	*Tennessee,*	On the Anatomy of the Eye.
Washington Finley,	*Maryland,*	On Intermittent Fever.
Thomas H. Buckler,	*Do.*	On Animal Heat.
George W. Wilson,	*Do.*	On Digestion.
William T. Jones,	*Do.*	On Animal Heat.
Marcus Ahlenfeld,	*Pennsylvania,*	De morbis venereis.
Frederick Butler,	*Maryland,*	On Vaccination.
Robert H. Ayres,	*Do.*	On Pericarditis.
Dr. W. K. Schley,*	*Georgia,*	On the best Winter Residence for the Consumptive
Dr. John Mayo,	*Virginia,*	On Erysipelas.

ROBLEY DUNGLISON.
Dean of the Medical Faculty.

* Drs. Schley and Mayo were already graduates of the University of Pennsylvania.

Editorial Notices and Acknowledgments.

It will be seen that with the commencement of our second volume, we have made considerable improvement in the typographical execution of the work. The whole of the original and selected papers, and the review department, of this number are printed on new type; and it is proposed to make a similar improvement in the other portions of the Journal.

A communication from Professor Smith, with some others, have been crowded out of the present number. They will appear in our next. Dr. Lebby is informed, that we shall be pleased to receive the papers to which he refers.

The following publications have been received within the last month:

Chemical and Medical Researches on Kreosote, its preparation, properties and use. By E. Miguet, Member of the Chemical and Philosophical Society of Paris, &c. Translated from the French, by William Wetherill, M.D. Philadelphia. Judah Dobson, 1835. (*From the publisher.*)

Magazin der Auslandischen Literatur der gesammten Heilkunde, und arbeiten des Aerztlichen Vereins zu Hamburg, herausgegeben von Dr. G. H. Gerson und Dr. Nikol. Heinr. Julius, 8 Band. 1 & 2, heft. for July, August, September and October, 1834. (*In exchange.*)

Græfe und Walther Journal für Chirurgie und Augenheilkunde Bde. 20, Stuck. 4. Bde. 21, Stuck. 1 & 2, 1833—34.

Rust's Magazin für die gesammte Heilkunde. Bde. 41, heft. 1, 2 & 3, und Bde. 42, heft. 1 & 2, 1834.

Tiedemann und Treviranus Zeitschrift für Physiologie. Funfter Bande Erst. Heft. 1833.

Hufeland und Osanns Journal für Practischen Heilkunde, Bande 77, Stuck. 5 & 6, for 1833, Bande 78, Stuck. 1, 2, 3, 4, 5, 6, & Bde. 79, Stuck. 1, 1834.

Hecker's Wissenchaftlichen Annalen der gesammten Heilkunde, for Dec. 1833, and January, February, March, April, May, June and August, 1834.

Jahrbucher der homöopathischen Heil-und Lehranstalt. 2, heft. 1834.

Revue Medicale Français et Etrangère, Nos. 10 & 11 for October and November, 1834. (*In exchange.*)

Journal Hebdomadaire des Progrès des Sciences et Institutions Médicales, Nos. 43, 44, 45, 46, 47, 48, 49, 50. (*In exchange.*)

Annales de la Medécine Physiologique, Nos. 9 & 10, for September and October, 1834. (*In exchange.*)

The Edinburgh Medical and Surgical Journal for January, 1835.

The Lancet, Nos. 6, 7, 8, 9, 10, 11, 12, 13, 14, for November and December, 1834.

The London Medical Gazette, for November and December, 1834.

The Dublin Journal of Medical and Chemical Science, No. 18, for January, 1835.

The London Medical and Surgical Journal, Parts 34 & 35, for November and December, 1834.

The Boston Medical and Surgical Journal, Nos. 4, 5, 6, 7, for March, 1835. (*In exchange.*)

The United States Medical and Surgical Journal, No. 8, for March, 1835. (*In exchange.*)

The Boston Medical Magazine, Nos. 15 & 16, for March, 1835. (*In exchange.*)

The Western Medical Gazette, No. 10, for February, 1835. (*In exchange.*)

Address to the Alumni and Graduates of St. John's College and to the friends of Education in Maryland. By Hector Humphreys, D.D. President and Professor of Moral Science, delivered after the commencement in February, 1835. Annapolis. Printed at the request of the Visitors and Governors of the College.

Report on the New Map of Maryland, and of the Geologist appointed to make a Geological Survey of the State. (*From Professor Ducatel.*)

NORTH AMERICAN ARCHIVES
OF
MEDICAL AND SURGICAL
SCIENCE.

Vol. II.] MAY, 1835. No. 2.

ARTICLE I.

Reports of Cases in Surgery, with Remarks. By N. R. Smith, M.D. Professor of Surgery in the University of Maryland.

Extirpation of Tumors of the Neck.—It will be recollected by the readers of this journal, that, some months since, several cases were reported by the writer of this article in proof of the practicability of extirpating such tumors of the neck, as locate themselves beneath the deep layers of the fascia of that region. I have it now in my power to add another instance of success, in a case of no small interest, justifying my strictures on the remarks of Mr. Burns upon this subject.

Mr. C., a man 48 years of age, from Petersburg, Va., presented himself in the Baltimore Infirmary for the purpose of consulting me in regard to a tumor of considerable magnitude located in the neck. His countenance wore an expression rather sickly and haggard; his pulse, being frequent and somewhat quick, gave evidence of some constitutional disturbance; his tongue exhibited a white coat, and he represented his appetite to be indifferent. His voice was somewhat altered, and his breathing through the nostrils in some degree impeded. From the left nostril there occasionally occurred an offensive discharge.

On the left and anterior part of the neck, there existed a tumor of the size of a man's fist. It had insinuated itself beneath the anterior border of the sterno-mastoid muscle, and expanding the fibres of that organ, had thrust it forward and outward. The main body of the tumor was above the course of the omo-hyoid, but this muscle crossed anteriorly its inferior extremity, and had probably, by its resistance, assisted to urge the tumor upward towards the angle of the jaw, near which its largest portion was lodged. The tumor had a lobulated feel, but in other respects was pretty well defined. It was evidently fleshy in its consistence, and was, in itself, but little sensitive when handled. It was the cause, however, of painful sensations shooting upward into the head, and downward into the chest. These were aggravated whenever the tumor was handled. The disease had been about eight months in progress, and its growth, at the time that it came under my observation, was rapid. Having consulted my friend, Professor Geddings, we came to the conclusion, that although the extirpation of the disease would be difficult, it was practicable; and, although it was not improbable that the disease might recur, we considered the operation practicable.

With the assistance of Professor Geddings, and in the presence of the pupils of the University and several medical friends, I performed the operation for its removal on the 25th of February. The first stroke of the knife divided the integuments parallel, and a little anterior to the border of the sterno-mastoid muscle, traversing the tumor longitudinally, and along its most prominent part. The superficial and deep-seated layers of fascia investing the tumor were next divided. The tumor itself was found enveloped in a proper covering of cellular tissue. This being opened, I proceeded with caution to dissect the tumor from the surrounding parts. This was rendered extremely difficult by the deep situation of the tumor, by its lobulated form, and the manner in which its lobes were insinuated into the surrounding parts. The ramus descendens noni was distinctly exposed in the early part of the operation, and was so completely involved in the envelopes of the tumor that it became necessary to divide it, a step which was attended with no peculiar consequences. It soon became manifest that the jugular vein and the carotid artery were so intimately connected with the tumor, as to require great care in the further use of the knife. The jugular vein was partly buried in the posterior part of the tumor, and some of its branches were spread over it, or penetrated it. I dissected the vein from this situation with great care, but in doing so necessarily divided some of its branches. One of these, near the angle of the jaw, gave us some trouble, but a small sponge compress quickly arrested the hemorrhage. Another also sprung in the lower angle of the wound. I found it necessary to divide the omo-hyoid muscle where it crossed, like a ribbon, the lower part of the tumor.

It became manifest, as the operation progressed, (from the fact that I was obliged to dissect bare the very tunics of the vein, and from the fact that the nervus descendens noni was situated on the anterior part of the tumor,) that the disease had been developed in the tissue constituting the sheath of the great vessels. The carotid artery also lay in contact with the tumor, but in detaching and avoiding this vessel, there was no particular difficulty, since its firmness and pulsations rendered it, at every moment of the operation, perfectly manifest. But to avoid inflicting injury upon the vein required constant care; for when any degree of traction was made upon the tumor, in order to bring into view its deep attachments, the vein was necessarily dragged far out of its natural situation and relations, and being then entirely emptied of its blood, it presented precisely the appearance of some of the firm bands of tissue which were seen penetrating the tumor. A wound of this vein, under such circumstances, is well known to be a much more serious accident than a wound of the carotid artery.

I at length succeeded in completely disengaging the vein without injury, and in removing the tumor. The only artery which required a ligature was a small twig which issued from the parotid gland. The venous branches ceased to bleed.

The parts now presented the appearance of having been cleanly dissected, as if for a demonstration. The jugular vein and the carotid artery were denuded from the angle of the jaw nearly to the clavicle; the sterno-hyoid and thyroid muscles, the digastric, the stylo-hyoid, the submaxillary and parotid glands, &c. &c., were extensively exposed. The wound was closed with sutures and adhesive strips. The patient, for a few hours, experienced severe pain in the head, and endured some embarrassment of breathing and of deglutition, but on the whole, the case progressed favourably, and in two weeks the wound had completely healed, the greater part having been at once united by the first intention. I fear, however, a reproduction of disease.

CASE II. *Femoro-popliteal Aneurism. Spontaneous cure of Popliteal, by the occurrence of Femoral Aneurism. Arteries diseased. Ligature of the Femoral. Hemorrhage on the* 11*th day. Separation of the Ligature on the* 19*th day. Recovery.*— The readers of this journal will recollect a case of popliteal aneurism occurring in the person of A. B., a scavenger, living in

Exeter street, O. T., related by me more than a year since, as having been relieved by the ligature. About two months and a half since, I was again requested, by my friend, Dr. Altvater, to see this patient on account of the occurrence of popliteal aneurism in the opposite limb. It will be remembered that there were some evidences of its incipiency at the time of the previous operation, but the depletion then suffered, repose for so long a time, and his abstinence from drink, had apparently, after he had again resumed his occupation, effected its removal. But a return to his potations, within the last six months, had impaired his general health,—reproduced and rapidly enlarged the tumor. At the time of my first examination of him, it was nearly as large as the first, though obscure in its outline from the swelling of the neighbouring parts. It pulsated strongly and was in itself so painful, while it inflicted so much irritation upon the surrounding parts, that he suffered almost constantly, and was incapacitated for labour.

I did not see him again for three or four weeks, when Dr. A. again requested my attendance. A femoral aneurism had now presented itself in the middle of the thigh, where the artery dips to perforate the tendon of the adductor. It had already assumed a size nearly as great as that which the popliteal had previously shewn, and pulsated strongly and painfully. A surprising change, however, had taken place in the popliteal aneurism; its size had greatly diminished, its pulsations were very feeble, and it had nearly ceased to give him any inconvenience. The femoral artery, below Poupart's ligament, appeared to be a little enlarged and felt rigid under the finger; his pulse at the wrist was full and hard. It was obvious that nothing but an operation could avail, and for obvious reasons we deemed the result of this doubtful. The patient, however, desired an operation and I considered it my duty to perform it. Dr. A. instituted suitable preparatory treatment—placing him at rest—taking blood occasionally—administering aperients, &c. &c. In three weeks we found his condition much more favourable in all respects; his pulse had become soft and healthy; there was less throbbing and hardness of the femoral artery; the aneurism pulsated less strongly.

I proceeded to execute the operation March 4th. I was assisted by Dr. A., Dr. Isaacs, Dr. Sproston, of the navy, and several medical pupils. After some little embarrassment from the cowardly and refractory conduct of the patient, I applied a single small silk ligature to the femoral artery, just below Poupart's ligament. The cut was small and the artery disturbed in the smallest possible degree, but a very small opening being made in its sheath. I found its coats, in some degree rigid, and the vessel slightly enlarged.

After the operation, every thing appeared to be going on as well as could be desired. The wound closed, except around the ligature; pulsation ceased in the tumor, and never returned either in it or the popliteal aneurism; the patient was, in the meantime, occasionally bled; both tumors rapidly sunk.

On the 9th day, there was pulsation near the ligature giving me some anxiety, and there was an unhealthy aspect of the cut. On the 11th there occurred a furious gush of arterial blood, to the amount of ℔ij.; the pulse sunk; the foot became paralyzed and cold; there was a small tumor formed around the ligature; the wound presented a livid aspect; and there was much pain in the part. We applied the graduated compress and bound it firmly with a spica bandage. When re-action took place, blood was taken from the arm. The next day, (12th) he was comfortable—no pain—tumor in the wound less—limb warm—pulse small—ligature still attached. On the 13th, bled again in less quantity; pursued similar treatment, also wetting the dressings with cold water. His diet had been all along very simple and rest perfect. 15th day, bled again from the wound, ligature still refusing to come away. 17th, further bleeding; ligature still firm; he had been repeatedly bled from the arm.

I now twisted the ligature around a small cylindrical stick, and having rolled it up close to the wound, thrust lint beneath each extremity of the cylinder, so as to make constant traction on the ligature. On the 19th, the ligature separated with no bleeding. The wound immediately put on a healthy aspect, and the patient has since been doing well, without the slightest repetition of hemorrhage.

I learn from the Records of Surgery, that hemorrhage after the ligature, for cure of aneurism, has been by no means unfrequent, and that it has often been commanded by the compress, after so much blood had been lost as to very much subdue the pulse. Was the irritation of the ligature, lingering in the part, the cause of the bleeding in this case?

CASE III. *Extirpation of the Testis. Death from Phlebitis.*—On the 25th ult. I was requested by a medical friend to give advice in a case of diseased testis. The patient was a spare man, of good habits, about forty years of age, and of a melancholic temperament. Ten years previously the organ had been injured by the pummel of his saddle. Sarcocele had then resulted, for the treatment of which he had placed himself in the Baltimore Infirmary. A degree of relief had been obtained, but there persisted a degree of enlargement and induration of the organ. About four months before I saw him, the affected gland had begun sensibly to increase, and also to assume a schirrous hardness. It also became in a degree irritable, and began to prey upon the health and spirits of the patient. A very judicious course of treatment had been pursued for some weeks, but, although some symptoms were occasionally relieved, the disease on the whole had progressed, and was daily assuming a more malignant aspect. The tumour had a knotted feel, but in some parts a medullary consistence. The cord was not at all involved in any specific disease, although somewhat enlarged.

I fully concurred with my friend, the attending surgeon, in the propriety of at once extirpating the diseased organ. The operation was accordingly performed by me, on the 27th of March. It was accomplished with facility in the ordinary mode. The arteries of the cord were secured by carefully separating them from it, and I am confident that no vein was included in the ligatures. But a moderate quantity of blood was lost. The patient endured the operation with ordinary fortitude. Three ties of the interrupted suture were employed to close the wound. The patient was placed on his back, and the part carefully sustained by a soft compress and the T bandage.

On the next morning we found our patient doing well, though some pain had been suffered along the course of the cord. Means were employed to effect a movement of his bowels, which was easily accomplished. The case progressed favourably until the fourth day. I was then requested by his surgeon to see him on account of a considerable degree of irritation and swelling which had displayed itself in the groin. It had, however, already in a considerable degree yielded to the depletory measures. I found him suffering no more than the usual consequences of such an operation; indeed I considered our patient as nearly safe from any unpleasant consequences.

On the 9th after the operation, Dr. W. was called to Mr. R. in the night, on account of a sudden and violent inflammatory attack of the thoracic viscera. He had been seized with severe pain in the left side—the region of the heart—his breath had become exceedingly embarrassed—his pulse frequent, quick and bounding, and there was a high degree of febrile heat and thirst. There was nevertheless but little cough or expectoration. Before I saw him he had been twice promptly and largely bled; and the blood taken exhibited a thick buffy crust. At each time of using the lancet the distressing symptoms had been obviously in a degree subdued. Twenty grains of calomel had also been exhibited, and by the aid of other means satisfactory evacuations had been obtained from the bowels. He was now on the use of antimonials, which were directed to be continued.

In the evening of the same day, his symptoms were not materially changed. His pulse, however, was softer, and, although his breathing was embarrassed, he complained of but little pain. On pressing the abdomen, tenderness was found to exist in the left lumbar region. The wound was found to be doing perfectly well.

In the course of the following night, Dr. W. was again summoned to our patient, on account of an aggravation of pleuritic symptoms. He found him suffering precisely as before, but with less strength to endure it. He was compelled again to resort to the lancet, and again the blood exhibited a strong buffy crust. He also directed enemata. I should have stated that a blister had previously been applied over the region of pain.

In the morning I again saw him. We then found his condition to be hopeless, his countenance being pallid and cadaverous; his pulse feeble, frequent and quick, while at the same time all the symptoms of local disease were in no degree abated; he died the following night. An effort was made to obtain an examination, but it was unfortunately not successful.

Although we had no post mortem evidence of the character of those lesions which may be supposed to have taken place in this case, yet it appears to me that there can be but little doubt that this man perished from phlebitis, propagated slowly along the veins of the cord. This probably commenced at the moment that the swelling and inflammation displayed itself in the groin. It passed along the cava till it reached the heart, and from that organ it was probably diffused to the surrounding parts, perhaps by the pulmonary vessels. The abatement of the local symptoms only shows that the irritation had migrated. I think that I am justified in these conclusions by the results of analogous cases, where post mortem examination has been made.

ARTICLE II.

Case of Scirrhus Uteri, successfully treated with the Tincture of Iodine. By J. Erskine Pearson, M.D. of Fairfield District, South Carolina.

May 1st, 1833, I was requested to vist Edna, a mulatto girl, the property of D. Montgomery, Esq. aged about twenty-four years, whose general health had become so precarious as to disqualify her for any kind of business. On my arrival I was informed that she had not menstruated for a considerable length of time, was frequently complaining of uterine pain, accompanied with fluor albus—that she had from her puberty been unusually irregular in her menstrual function, and had frequently taken medicine, from a skilful physician, to little or no purpose. Knowing that this girl had been notorious for her indulgence in venereal pleasures, and that, although she had been married for some three or four years, her matrimonial connection had proved unfruitful, I suspected that she might possibly be labouring under organic derangement of the uterus. I accordingly proposed an examination, which was submitted to. The os uteri had a tuberculated feel, was indurated, tender to the slightest touch, and open. On withdrawing the finger, it was slightly stained with blood. From the recommendation of eminent physicians, I was induced to put her on the use of cicuta, 3 grs. three times per day, with 1-8 of a gr. of protoxide of mercury. This course was steadily pursued until about the 1st of June, and I saw her no more until the 25th, when her symptoms had somewhat improved. Thinking that I had given the hemlock a pretty fair trial, I concluded that I would next try the deobstruent powers of iodine, which was made into an alcoholic tincture, according to the formulary of Magendie. Of the tinctura iodini she took 5 drops, three times per day, increased one drop each day to 20, in a glass of sweetened water. After giving her 2 oz. of this tincture, I thought it prudent not to continue its use longer, least it might induce fatal emaciation. It was therefore laid aside, with the intention of resuming it again, if necessary, in the further treatment of the case; believing that a dangerous disease justified me in the use of what had been represented as a dangerous remedy. For the present I concluded to give her emenagogues, with a view of establishing the catamenia. On the 1st of August, she commenced taking pills composed of phosphate of iron, 5 grs.

aloes soccot: 1 gr. myrrh. 3 grs., 3 times per day, and 20 drops of the tinct. lyttæ, 3 times per day. This plan was continued for a few weeks, when her menses were restored. After the usual period was over, I omitted the emmenagogues, and ordered the tinct. mur. ferri. I heard no more from the case until about the 1st of October, when I was sent for in haste to visit the subject of it, as she was supposed to be dying. On my arrival I found no deviation from health in the pulse, but from her appearance as represented at the time, I judged that she had syncope. I ordered a hot pediluvium, and gave some sulph. æther, which soon restored her. I learned enough to induce me to suspect that she was breeding; and these suspicions were not long afterwards confirmed, as I was again called on in May to visit her, and was urged by her mistress, who had uncommon solicitude for her, to give her medicine for *dropsy.* I was pained to hear such news, fearing that all my efforts had proved fruitless; but to my surprise on examination, I found her far gone in pregnancy, and assured her that she would soon be cured of her dropsy, per vias naturales. My prognosis ultimately proved correct, notwithstanding such an event was so improbable and so unexpected, that her kind hearted mistress could not be induced to lay aside her scepticism on the subject, until Edna was delivered of a fine healthy boy, since which event she has enjoyed uninterrupted good health.

I forbear making any remarks upon this case, believing that its characters, and the result of the treatment are so obvious, as to require no comment. Others may speculate; my only aim has been to lay before the public an unvarnished statement of facts, with a view of assisting in the common effort to curtail the misery of suffering humanity.

Monticello, S. C., March 25, 1835.

ARTICLE III.

Case of Poisoning from Ergot, (*secale cornutum.*) By ISAAC HULSE, M.D. Surgeon, United States Navy, Pensacola.

THE effects here described occurred from an overdose of ergot, in a lady of delicate constitution, who has a peculiar idiosyncrasy against all the narcotics. The ergot used on this occasion, was supposed to have lost some of its activity from age.

Mrs. H. was delivered of a healthy male child, August 14th, 1834, at half past 8, A.M., after a labour of six hours. The labour pains were extremely violent, and in quick succession. She frothed at the mouth near their close, and the dilatation of the pupil gave to the eyes the expression of a vacant stare. The hemorrhage was profuse, and an attempt was soon made to take the placenta. It was found attached, however, and an effort to introduce the hand produced fainting. At this time ergot was given: ℞. secal. cornut. ʒ i. aqua bullient. ℥ viij. one-half of this infusion for a dose, the balance in five minutes. This caused a few contractions of the uterus, and the hemorrhage ceased. The patient was supported in her exhausted state with a few drops of tr. camphoræ, given occasionally. In this condition she remained till 11, A.M. the next day. During the interval she took a few drops of acetum opii, and slept about an hour. Ergot was now given, in doses as above, every half hour, until ℥ xii of the infusion had been administered. The uterus, which had been inactive for many hours, gave two or three strong contractions soon after the first dose, and then relapsed into a state of quiescence. At this juncture I resolved, notwithstanding the great sensibility of the parts, to introduce the hand, and take the placenta at all hazards. I reached the placenta, however, near the os externum, and finding it detached, brought it away without causing pain. I soon perceived that my patient was in a state approaching insensibility. The pulse was feeble, about sixty-five, and the limbs were covered with a cold sweat. Ordered wine and water. Shortly the palpebræ began to swell, likewise the lips and fauces; the tears flowed copiously; the Schneiderian membrane seemed much stimulated, and there was coryza, great difficulty of breathing through the nose, and injection of the vessels of the conjunctiva. The lips and palpebræ began to puff as if stung by a bee, and gradually assumed a livid appearance. The power of deglutition was now nearly lost; the voice became feeble; she said her jaws were fixed, and shortly after it was with the greatest difficulty that an answer of yes or no could be elicited. Previous to arriving at this point, she had complained of pain in every *nerve*, and a sensation of emptiness of the head.

I felt confident my patient had been poisoned by the ergot. I had a dose of sulphate of zinc prepared, but concluded it was doubtful whether emesis, at that late period, could be produced, as my patient gave evidence of great exhaustion, she having no power to move the lower extremities, and but very little control over the upper. I gave carbonat. ammon. gr. v. dissolved in a wine glass of cold water, every half hour, and used frictions over the whole body and limbs, with the strongest liniment of ammonia. There was an amelioration after the second dose, the pulse rising, and the skin becoming warm; and after the third, the symptoms had so far subsided as to render it unnecessary to continue the remedies. On recovering the power of speech, she informed me that her head had seemed to be perfectly empty, and that the sense of hearing had become so heightened, that every word spoken, in the lowest tone, reverberated through the head, and passed through every nerve over the whole body. She seemed to herself to have been totally deprived of the natural warmth of the body, which was restored by the frictions. The symptoms all disappeared in a few hours, except the redness and tumefaction of the palpebræ; which remained in a slight degree on the following morning. As the pulse rose, and the patient recovered, there was a general perspiration, the matter of which emitted the peculiar fetor of ergot. She rose from her confinement without any untoward event.

Pensacola, March 7th, 1835.

ARTICLE IV.

Note on the Treatment of Congestive Fever. By Dr. A. B. Arnold, of Abbeville District, South Carolina.

[The following brief note, on the treatment of one of the most common and fatal diseases of our country, we extract from a friendly letter which we have had the pleasure to receive from the writer. It was not designed for publication; but coming as it does from one whom we have long known as a most skilful practitioner, we take the liberty to give it publicity through the pages of our journal, and hope that Dr. Arnold will do us the favor to communicate a full account of the form of fever which has prevailed in his neighbourhood.—Editor.]

We have had a severe form of congestive fever amongst us for two years, which has required very active purging, with bleeding, in the early stage of the disease, and blistering in the latter. I never stimulate, and when I find it absolutely necessary, in some protracted cases, to desist for a time from purging, I let my patients rest for a few days on spare diet, and if the congestion has not been entirely broken up, after the system has had an adequate respite, and has recovered its energy sufficiently, I purge them again, taking care to produce consistent discharges. This course of practice has been almost universally successful. But where patients have not been sufficiently purged, no matter whether they were put upon the plan recommended by Broussais, or that of Daniell, or Minor and Tully, or any other course of stimulants, they have generally died. I have found bleeding in the first stage of the disease absolutely demanded. Some who have relied upon purging alone, have frequently lost their patients for the want of early bleeding, whereas those who have bled and purged under proper regulations, have been almost uniformly successful.

ARTICLE V.

Application of a Ligature to the common Iliac Artery of a Horse.

By the Editor.

As the operation of applying a ligature to the common iliac artery has not been often performed, the report of the following case, in which it was practised on a horse, may be worth recording. The accident which rendered the operation necessary, happened on the Washington race course, at Charleston, in 1824.

A servant on horseback met a gig, which was driven with such speed, that he found it impossible to rein his horse out of the way. The point of one of the shafts penetrated directly in front of the crest of the ilium of the left side, and ranging in an oblique direction, made its exit between the anus and the root of the tail. The shaft was not broken, and was immediately extricated. A torrent of blood instantly gushed from the wound, and continued to flow so rapidly, that the animal was affected with violent tremors, and was threatened with syncope. Being near at the time, I was called upon for assistance, and judging from the character of the wound, its direction, &c. I was induced to infer that the hemorrhage could only be commanded by the application of a ligature to the common iliac artery.

The horse was accordingly thrown on his back, by three or four stout negroes, and with the assistance of my friends, Dr. Graves, and the late Dr. Finley, I proceeded, with only a common pocket scalpel, a curved needle, the point of which was broken off, and a piece of small twine, to the performance of the operation. An incision of about four inches in length was made through the integuments, immediately above, and nearly parallel with, Poupart's ligament; the tendinous aponeurosis of the oblique muscle was then divided to the same extent, in the course of its fibres, and my hand passed into the cavity of the abdomen, through an opening cautiously made in the fascia transversalis, and the corresponding portion of the peritoneum. Carrying it upwards and backwards, I immediately reached the common iliac artery with the tip of my finger, with the nail of which, I scratched through the peritoneum and fascia on each side of it. This done, the blunt needle, armed with the twine, was cautiously conducted beneath the vessel, guided by the finger, and the ligature tied. One end was cut off close to the knot, and the other brought out at the external wound. The hemorrhage was instantly arrested, and the artery pulsated violently above the ligature. The external wound was afterwards closed by means of three or four sutures.

The animal soon recovered sufficiently to rise with but little assistance, and afterwards walked the distance of a quarter of a mile, to the nearest stable. On the second day he was bled freely from the jugular vein, and cathartic medicine was administered. The case promised at first to do well, but on the fifth day, unpleasant symptoms shewed themselves, and on the sixth, death took place.

A careful examination of the parts was made, in the presence of the late Professor Ramsay. The artery was found perfectly obliterated, and the ligature detached, and it was ascertained that death had been induced by violent peritonitis, which seemed to have been rather a consequence of the extensive laceration inflicted by the original wound, than of the operation.

Professor Gibson first applied a ligature to the common iliac artery in the human subject, in 1812, during the riots which took place in Baltimore. It has since been performed with success by Professor Mott, of New York, and unsuccessfully by Guthrie and Dupuytren.

ARTICLE VI.

Treatment of Fracture of the Clavicle. By RICHARD WILMOT HALL, M.D. Professor of Obstetrics in the University of Maryland.

THIS bone is often fractured in the adult by blows—by the recoil of a fowling piece—by falling from a horse or vehicle on the shoulder, and sometimes by extending the arm to a resisting object, when the body is suddenly thrown forwards. During the period of infancy or childhood, a solution is often caused by falling from an elevated bed, or down a succession of steps. This accident is not generally attended with danger. Sometimes the vessels and soft parts in the neighbourhood of the fracture do suffer laceration from the acute points of the bones which invade them. A deformity often remains, when an oblique fracture is neglected or maltreated, by the inclination of the shoulder inwards and downwards, the support afforded by the clavicle in its natural length having been withdrawn. Another unpleasant result is too often added, which in a female is especially to be regretted, as impairing the perfection and symmetry of the chest, viz: the appearance of a prominent bony tumour at the point where the clavicle has been fractured. These deformities are often found to exist after oblique fracture, when treated according to the methods recommended by the English and French schools of surgery, by means of many folds of common roller or bandage:* Hence these deformities are almost always the result of this accident in infancy or childhood. In the case of an adult, who can reason himself into submission to professional dictation, we may hope to find an endurance of the stricture and local irritation, necessarily inflicted on him for a series of days and nights, by the folds of this boa constrictor of surgery; by which, in hot climates, or in the warm months of summer, the sufferer must be macerated, if not extensively excoriated.

In the cases of children, can the endless folds of this bandage,"*several yards*" in extent, be tolerated? Does not the experience of every practitioner teach, that they *will* not be borne by the little sufferers? They can neither rest, sleep, or take nourishment while under such treatment; and the nurse is induced even for her own comfort and repose, secretly to undo all that the surgeon has previously done with care and attention. Again: These long rollers of the old plan require a new adjustment at least every morning—even where they have not been interfered with by the patient or nurse; and in the end, after great attention has been lavished on these cases, the deformities before alluded to are found to exist, to the disgrace and injury of the surgeon.

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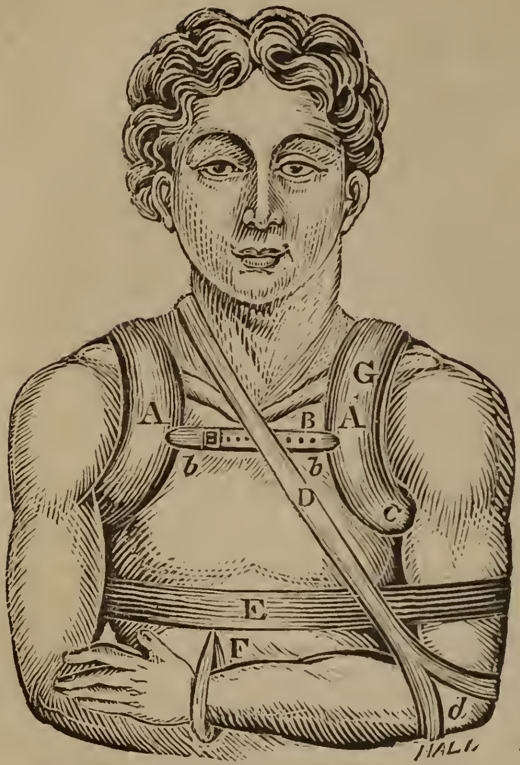
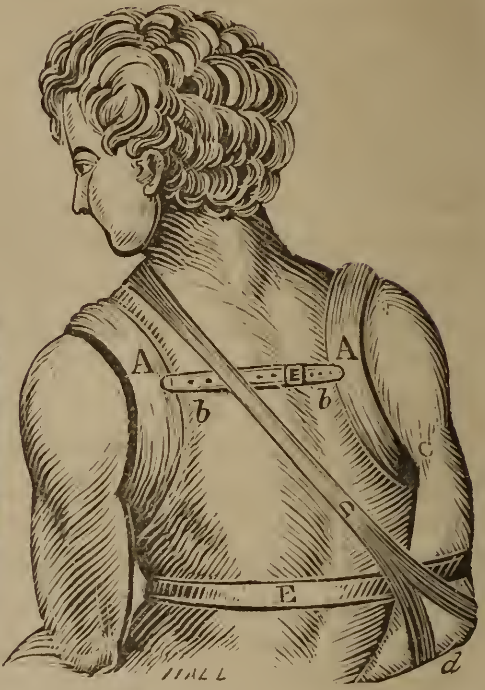
* Vide surgical works.

It is almost superfluous here to remark, that the shoulder, in fracture of the clavicle, falls toward the lower portion of the sternum, and when the fracture is oblique, that the broken ends of the bone pass each other, or that one fragment "*rides*" upon the other. The anatomical structure of the parts concerned, teaches us, that in order to correct these deviations, the arm must be supported, so that it cannot gravitate downwards; the shoulder must be drawn back, and its tendency to the anterior declination steadily counteracted. These are the indications. Ample experience has convinced us, that the *rollers of many yards long* will not meet the intentions of the surgeon here. They stretch or yield—they become displaced by the motions of the body—and they often cause great local, and covert irritation.

About twenty years since, I discarded the long rollers recommended by European surgeons in such cases, and adopted a more convenient, simple, and efficient plan, to fulfil the indications in fractured clavicle. This plan will be readily understood by the annexed plates with explanations. I have invited many practitioners of this city to visit my patients, of all ages, on whom this apparatus had been applied, and have exhibited to them the individuals after the termination of the treatment—they have expressed their entire approbation of its success. I have used it also in the Infirmary attached to the University of Maryland, and have invited the attention of my colleagues, the successive professors of Surgery, to its details and results. Its simplicity is such, that a nurse of ordinary intelligence can manage it under the occasional notice of the surgeon. It should be applied on the parts without the intervention of any portion of the dress, which may then be worn over it. The plate shows the left clavicle as treated for fracture—the arm on that side must of necessity be confined near the body. The right arm is left free for action.

Baltimore, April 14, 1835.





EXPLANATION OF THE PLATES.

ANTERIOR VIEW.

AA. The two humeral rings formed of soft leather, with cotton or other stuffing.

B. A strap and buckle attached to each of the rings, at the points bb. to approximate the rings.

C. An enlargement of the ring that passes over the fracture of the clavicle, to serve as a wedge or fulcrum in the left axilla.

D. A strap or kerchief resting on the right shoulder, to elevate and support the elbow. Split at *d.* to receive the olecranon, and to retain it.

E. A strap or roller to fix the left arm, and by bringing the elbow to the body, around which it passes, to make the arm a lever, acting on the fulcrum *c.* and thus keeping the head of the humerus from pressing inwards towards the sternum, and displacing the fractured portions of clavicle.

F. A strap or bandage to sustain the left hand. The right hand and arm are left free.

G. The point at which the fracture has taken place may be covered with adhesive plasters, placed under the ring.

POSTERIOR VIEW.

AA. The humeral rings.

B. A strap and buckle to approximate the posterior and median periphery of each ring, and to cause the scapulæ to approach the spine, and to prevent the shoulders from gravitating forwards. *bb.* the points of union with the ring.

C. The enlargement of the axillary portion of the humeral ring.

D. The strap to sustain the elbow, split below to receive the olecranon at *d.*

E. The strap to secure the arm, and by drawing it to the body, and causing it to act as a lever.

ARTICLE VII.

Pathology and Treatment of Irritation—Local, Sympathetic and Constitutional. By N. R. Smith, M.D. Professor of Surgery in the University of Maryland.

1. The human body is composed of an assemblage of organs, each possessing its peculiar structure, and performing its appropriate office. By this multiplication of organs a division of vital labour is effected, each constituent part executing its function for the benefit of the whole economy, and being in its turn dependant upon its associates. The functions of all these organs have a common object—the life of the compound body to which they belong. To preserve harmony of action they must perpetually keep up a vital correspondence, and this is effected through the medium of the nerves, one of the uses of which is to convey vital influences from organ to organ. This office of the nervous system is termed sympathy, or correlation, and we shall find that it performs an important role in disease, as well as in health.

2. Each of the constituent organs is in itself compound, being constituted of certain elementary tissues, or peculiar organized textures. Each one of these has its proper physical and vital properties, or qualities, by virtue of which it performs its allotted part in the structure of an organ, and in disease exhibits phenomena which are peculiar to itself. The elementary principle of life, is inherent in many of these tissues. It is that quality, by virtue of which, the part feels the impression of an agent called a stimulus, and responds to it by either sensation or motion. Almost every substance in nature may become a stimulus, and some substances, either external or internal, such as air, electricity, aliments, &c., are perpetually acting as such upon some of the tissues, and exciting this vital property. The sensations and motions thus resulting, are the elements of all the offices of life. The vital property which thus responds to stimuli, was by Haller termed "irritability;" by Professor Jackson and others, it is with much propriety styled "vital force;" by Bichat it is resolved into the two properties, sensibility and contractility. I prefer (and in so doing am not singular,) to call it *excitability*, a term sufficiently general to express all forms of it, one by no means equivocal in its meaning, and embracing no hypothesis.

3. So long as excitability remains healthy, or normal, and is

operated upon by a stimulus of suitable degree and quality, healthy action, or excitement, alone results. If the excitability of a part, or of the system, has, by the operation of predisposing causes, become excessive, we term this state, *irritability.* When a stimulus acts with excessive force upon a part, we call this agent an *irritant.* If an ordinary stimulus act upon a part which is irritable; or if an irritant act upon a part which is healthy; and more especially if an irritant act upon a part which is irritable, the modified or morbid excitement which results, is *irritation.*

4. Irritation, then, in other words, is the morbid excitation of the vital qualities of a part, or of the system. It is the element of all diseased actions, or morbid phenomena, precisely as excitement is the element of all the healthy functions. It may be produced in any tissue which possesses excitability; that definition of irritation, therefore, which makes an afflux of fluids to the part a necessary condition, is erroneous, since there is excitability in tissues not immediately concerned in the circulation, as for instance in the nerves and muscles. Irritation, it is true, is almost always quickly followed by a determination of fluids to the part, and hence the justness of the aphorism, "ubi irritatio, ibi fluxus;" but irritation is sometimes very manifest in a part where no evidence of a disturbed circulation is seen.

5. Of irritation it is necessary to recognize three varieties: 1st. *Local Irritation;* 2d. *Sympathetic Irritation;* 3d. *Constitutional Irritation.*

6. Local Irritation. When the action of an irritant is slight and circumscribed, its effect, for a time at least, is confined to the part on which it immediately acts. The impression is not sufficiently intense to disturb, through the nerves, those organs which intimately sympathize with the part, and much less to agitate the whole system. The brain, it is true, takes cognizance of the injury inflicted, and pain is felt, but no morbid exercise of the office of the brain takes place, for the perception of pain is then a normal function of that organ.

7. Local irritation must obviously be most readily excited in those parts which possess the highest degree of excitability. This property is generally proportioned to the number of blood-vessels and nerves, which enter into the organization of a part—but this is not invariable, as we shall hereafter have occasion to show. An augmentation of vascular action, with afflux of blood to the part, (inflammation, hyperemia) although it usually quickly fol-

lows, is not a necessary concomitant of local irritation. If we pierce a part with a needle, there is pain, giving evidence of irritation, at the instant of the contact of the instrument; but no afflux of fluids can have yet happened, and when it does occur, it results as the effect of irritation. But sometimes local irritation remains fixed in the nerves, or other sensitive tissues, and does not pass over to the blood-vessels, and then irritation continues to be the only pathological condition of the part, there being much pain and tenderness, without the slightest evidence of inflammation. There occur cases of neuralgia which illustrate this principle. I have recently attended a medical friend labouring under an affection of the knee joints, attended with such extreme morbid tenderness of the articular apparatus, as to cause great suffering whenever he attempted to walk without a crutch. There was, however, not the slightest evidence of inflammatory action—not the least puffiness of the joint, so uniform a concomitant of inflammation of the synovial membrane. We may also instance the irritable state of the female breast described by Cooper. Analogous cases are of frequent occurrence.

8. *Causes of Local Irritation.* Local irritation is much more readily excited in some individuals than in others, owing to the existence of a greater degree of sensitiveness. A surgical operation often creates far more pain in one individual than in another, even where moral firmness is the same in both, and the condition of the parts similar. I once removed an adipose sarcoma from the back of a female, in the Baltimore Infirmary, who was so insensible to the knife as to be scarcely conscious when the operation was commenced, or when it terminated.

9. The readiness with which local irritation is produced, is often owing to the previous operation of predisposing causes, inducing general or local irritability. Any agent which either depresses the natural energies of the system below the healthy standard, or elevates them above it, may become a cause of irritability; for any departure from the state of perfect health, renders the system more obedient to the exciting causes of disease. The effect is the more certain to result, because such agents operate unequally, and the balance of action is necessarily disturbed.

10. Excitability is observed to accumulate in an organ from which its accustomed stimulus is for a time withheld; and it is in a corresponding degree exhausted by a frequent repetition of the excitant. Irritation, therefore, is more easily excited in a part

which has been for a time in a state of repose, than in one which has been recently fatigued. The sudden admission of light to an eye which has been for a time in total darkness, instantly creates irritation of that organ.

11. The healthy excitability of an organ may be greatly diminished or exhausted by the frequent repetition of irritation. The first introduction of the catheter is painful; the second, if sufficient time has elapsed, is less so, and ultimately the passage of the instrument is hardly felt. To this principle, however, there are exceptions; sometimes permanent irritability is produced by the repetition of the irritant.

12. Irritability of certain parts is frequently dependant on an irritation already existing in other organs. Thus, chronic gastro-intestinal irritation causes other parts in which no disease is yet manifest, to be more susceptible to morbific agents.

13. The exciting causes of local irritation, are any agents which are capable of impressing the vital qualities of a part, acting inordinately, or upon an irritable part. These agents may be mechanical, chemical, or vital. The rude impression of hard or sharp bodies, or even the presence of a particle of foreign matter, as in the eye, is often a cause of local irritation. Heat, cold, and innumerable other chemical agents, any agent, in short, which threatens or produces lesion of texture, is an irritant. Mental emotions sometimes produce local irritation.

14. The amount of local irritation produced by any cause, is in the compound ratio of the force of the irritant, and excitability of the part.

15. *Symptoms and Diagnosis of Local Irritation.*—The excitability of an organ is ordinarily exercised in the proper function of that part, but when operated upon by an irritant, it is diverted from its usual office, and occupied by an excitement inconsistent with it. Muscles, when irritated, act spasmodically, and no longer in obedience to the will; or they are paralized. The eye, when struck, perceives bright flashes of false light, but is incapable, for a time, of its usual office. Sometimes the function of an organ is for the time suspended altogether by irritation. Sometimes the irritant is associated with the accustomed stimulus, and the office of the organ is preternaturally increased, as in the secretion of the lachrynal gland by a mote in the eye. Sometimes the action of the part is merely modified and vitiated. When secretion is provoked by an irritant the product is often vitiated.

16. Pain is so prominent and uniform a symptom of local irritation, that the idea of the one is necessarily associated with that of the other. Wherever animal sensibility exists, pain is the instant effect of irritation, and it is proportioned to the degree of feeling in the part. It is consequently intense in the eye—the auditory passage—on the lips and the fingers, and, indeed, in the skin universally. But pain is not a necessary symptom of local irritation. Some parts possess only an organic sensibility, and although, in themselves, they feel external impressions, and have their excitability roused, they impart no sensation to the brain. The stomach is sometimes strongly irritated without the production of the slightest pain.

17. Mr. Travers regards inflammation as one of the demonstrations of local irritation, but I see not how we can otherwise regard inflammation, than as a mode of irritation itself—irritation of the blood-vessels,* rather than as a mere symptom of irritation. The moment that irritation becomes located in the blood-vessels, the symptoms of inflammation become those of irritation. The general symptoms of irritation in the tissues of a part, become supplanted by those of inflammation when this is established. I shall therefore consider inflammation as one of the terminations of irritation.

18. *Terminations of Local Irritation.*—Local irritation may terminate in resolution—in local inflammation—in sympathetic irritation, or in constitutional irritation. The period of pure local irritation is generally transient, it either quickly disappearing, or immediately passing into inflammation. When, however, inflammation has supervened, irritation still exists in the sensitive tissues which first felt the irritant, inflammation, or irritation of the blood-vessels, only being added to the previous pathological state, and presenting its own more obvious phenomena. Various degrees of irritation in the tissues of the part concerned, may remain associated with inflammation, according to the natural excitability, or irritability of such part. When local irritation has given rise to sympathetic irritation, the former sometimes totally disappears, the latter only persisting.

19. When local irritation is intense, the perturbating influence which it exercises through the nerves on the whole system, soon induces constitutional irritation: I do not, however, at present

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* Inflammation is irritation, but the converse is not true—irritation is not necessarily inflammation. The one term is generic, the other specific.

allude to those cases of severe injury in which local and constitutional irritation instantly and simultaneously result.

20. Sometimes, however, local irritation of even a severe character, continues for an indefinite time without causing any of these results. This is illustrated in the affection termed the irritable breast of females. Here we often have not the slightest evidence of inflammation—nay, the means employed in such cases to subdue a supposed inflammation, are usually found to be productive of decided injury.

21. *Treatment of Local Irritation.*—In relation to the treatment of local irritation, the first of object of attention is the cause. Perhaps this may be still operating; and if so, is to be promptly removed. A mote in the eye—a foreign body in the auditory meatus—a splinter in the flesh, may be causing an irritation which nothing will sooth till they are removed. The irritated organ should then be allowed to repose, and should be protected from the atmosphere. To discuss irritation before it shall have resulted in any other form of disease, such applications are to be made as are known to exercise a tranquilizing influence. Warmth and moisture, by relaxing the irritated tissues, are found to produce this salutary effect. They are applied in the form of fomentation or poultice. These may be medicated with anodynes, such as opium, capsules of the poppy, hyosciamus, &c. &c. Decoctions of the bitter herbs are used with the same intent. When the disease manifests a disposition to linger in a part which is sensitive and important, an effort should be made to transfer it to some other part by counter-irritants, whereby the surgeon favours the termination of primary local irritation in sympathetic irritation of less formidable character. The agents employed may be sinapisms, blisters, the moxa, warmth, &c. &c.

22. When the symptoms of local irritation are severe—the pain being great, and the disease of course threatening to pass into severe inflammation, or constitutional irritation, it is proper to meet its effects on the constitution by the internal employment of opiates. Even when inflammation has in a degree supervened, opiates are proper while irritation still predominates. Opiates internally given, even allay the symptoms of local irritation, though the system may not have yet become disturbed. They are thus used to allay the pain resulting from a surgical operation, and from accidental injuries.

23. SYMPATHETIC IRRITATION.—An irritant sometimes operates directly upon a particular part, but its effect, or a part of it, is by the nerves transferred to another organ, perhaps remote from the part first impressed. Stone in the bladder sometimes creates but little distress in that organ, but always gives rise to severe sympathetic irritation in the glans penis. In hip disease, (coxalgia,) although the affection is primarily located in the hip, the pain is at first wholly felt in the knee, and the attention of the patient, or nurse, is usually misdirected. The sympathetic and secondary affection often becomes more serious than the primary, and sometimes is the first which terminates in serious inflammation. A case has been reported by me, in the North American Archives, in which, from the irritation of a large calculus in the bladder, mortification was caused in the glans penis, though but little lesion was found to have been inflicted upon the bladder itself. Sometimes the sympathetic irritation, once established by revulsive influence, transfers to its own seat the whole of the primary irritation, and then becomes the only remaining disease.

24. Sympathetic irritation is characterized by the same symptoms which mark the local form. It is, however, less constant, and more disposed to change its place. It is also liable to the same terminations, though these do not uniformly, or so promptly, result. Sympathetic irritation is much more apt to retain for a time its primary character, and often, therefore, remains a simple irritation after the primary local irritation has passed into inflammation. Often, indeed, the sympathetic irritation does not arise until this change has taken place in the primary disease. The irritation, which attends local inflammation, is often observed to produce sympathetic pains and tenderness in different parts of the system, and to disturb the functions of particular organs.

25. Not unfrequently, however, sympathetic irritation results in inflammation, and becomes a fixed disease. It may also, by adding to the impression which the nervous system feels, assist the production of constitutional irritation.

26. The treatment adapted to local irritation is also applicable to the sympathetic. It is to be borne in mind, however, that as, for a time at least, the latter disease is wholly dependant on the former, we should first address our remedies to this, and should they promptly succeed, the secondary affection spontaneously disappears. But when the local irritation persists, it is proper that remedies should also be directed to the seat of sympathetic pain: for, by such application, we counteract the effect of local irritation

in producing it. In coxalgia, the sympathetic pain in the knee is often soothed by applications made to the knee itself.

27. Revulsives are particularly efficacious in the relief of sympathetic irritation. I have already remarked that this form of disease is subject to metastases; hence, we may often successfully solicit it from one part to another by suitable revellants. When we observe sympathetic irritation to locate itself in some important organ or sensitive tissue, blisters, sinapisms, the moxa, cups and leeches, one or all, are to be put in requisition, to give the disease a less mischievous locality, and a more manageable form. When the primary local irritation has declined, and the sympathetic form has become intense, and located itself in some important organ, it may be desirable to recall the disease to the part first affected, and this is to be accomplished by the application of stimulating revellants.

28. CONSTITUTIONAL IRRITATION.—It has been already stated that every part of the system is associated, and to a certain extent, vitally indentified with every other part, through the medium of the nerves. In the usual exercise of its office, each organ is perpetually influencing other organs, and soliciting from them the necessary co-operation. The necessities of each organ are felt through the nerves by other organs, and these then act to supply those wants. The "stimulus of necessity," then, a phrase used by Hunter, is not an unmeaning expression. This susceptibility of the whole system to local impressions may be termed constitutional excitability.

29. But when a part feels the powerful impression of an irritant which acts injuriously upon its excitability, its suffering condition is instantly announced to the whole of the system, and the various organs are, more or less, involved in the disturbance which radiates from the stricken part. The harmony of healthy action is broken—the organs no longer respond to each other in the usual manner, and the important functions of the economy are irregularly and morbidly exercised, or are, for a time, wholly suspended. This state of general disturbance is termed *constitutional irritation.* We may, in more brief terms, define constitutional irritation to be the morbid action of constitutional excitability.

30. When the constitution is morbidly sensitive to local impressions, we may term this state *constitutional irritability.*

31. The influence which the condition of one organ exercises

over that of the system, is generally proportioned to the importance of its function. The degree of constitutional irritation, is generally in the compound ratio of the importance of the organ, and the intensity of the local irritation excited in it.

32. Constitutional irritation may be divided into the *primary*, and the *consecutive*. Primary constitutional irritation is that, which is not preceded by any other state of disease, (except by local irritation, which, however, is generally simultaneously induced,) and is the immediate effect of the morbific agent. Consecutive constitutional irritation, is that which follows local inflammation, and is from the first associated with symptomatic fever.

PRIMARY CONSTITUTIONAL IRRITATION.

33. *Causes of Primary Constitutional Irritation.*—The predisposing causes of the primary constitutional irritation, are any which induce constitutional irritability. The systems of some individuals are, from birth, far more susceptible to perturbating impressions than those of others. Some persons are at once prostrated by the infliction of a slight local injury, while the nervous systems of others appear to suffer no shock from the same cause. I have known healthy and vigorous men, who uniformly fainted on the infliction of the slightest injury. I was once consulted by a patient who laboured under a formidable tumour located on the scapula. Whenever an operation was named to him, as a dernier resort, he was sure to become agitated, and to faint. Mr. Travers has related several instances in which surgical operations of moderate severity, have so shocked the systems of those who suffered them, as to cause instant death. My father, the late Professor of Surgery in Yale College, witnessed such a result in his own practice, from the extirpation of a small tumour upon the forehead. In all such cases there exists extraordinary congenital susceptibility.

34. Females are more susceptible of constitutional irritation than males, and children more so than either. Convulsions, which are one of the strongest expressions of constitutional irritation, are often produced in children by the action of a local irritant, as for instance, worms, or the presence of indigestible matters in the stomach. The susceptibility diminishes as age advances, till the same causes become comparatively innocuous.

35. The system, like a particular organ, may have its excitability in a degree exhausted, or, in other words, become accus-

tomed to morbific impressions, so that its susceptibility shall be diminished. The constitutional irritation resulting from an amputation, is usually not great, when the system has become accustomed to irritation from chronic disease, but often fatal when the operation is performed on a patient in rude health.

36. Any agent, which causes a considerable departure from the healthy standard of action, either by inducing exhaustion, or causing repletion and undue excitement, may produce a degree of constitutional irritability, or disposition to respond to the exciting causes of disease. In the one state, to use the language of Hunter, there is an increased disposition to act, without the power to sustain action. This would appear to be the predisposition most to be dreaded, since here the disease may be said to "make the meat it feeds on," or increase the state on which it depends. In the other case, there is an increased disposition to act, with power to support it. Here disease may sometimes remedy itself by exhausting the excessive power to sustain action.

37. Irregularities of diet and exercise, vicissitudes of temperature, epidemic influences, mental emotions—all the agents, in short, whether physical or moral, which strongly impress the living system, may, when inordinate, predispose to constitutional irritation. This they probably, in most instances, effect, by inducing occult local disease—a chronic irritation of some tissue or organ. As the mucous membrane of the stomach and intestines is more than other parts exposed to these lædants; and as the state of these organs powerfully influences the rest of the economy by correlation, we often find that obscure chronic gastroenteritis is the state, which renders the system morbidly susceptible to exciting causes.

38. The exciting causes of primary constitutional irritation are, for the most part, identical with those which produce local irritation, except that acting with greater violence, they not only produce the latter, but, through the medium of the nerves, shock and disturb every other organ which holds vital correspondence with it. Surgical operations are necessary sources of constitutional irritation, and especially when performed upon inflamed parts, the constitution being already morbidly irritable. All severe lesions inflicted by violence on the body, whether wounds, poisons, bruises, fractures, or dislocations, give rise to primary constitutional irritation in greater or less degree. Mental emotions are capable of exciting this general disturbance. Excessive terror has been known to produce convulsions and death. The

same has resulted from profound grief, and from bursts of uncontrolled joy. Great loss of blood may be both a predisposing and an exciting cause.

39. If we admit, with Hunter, that irritability is "an increased disposition to act without the power to act with," the influence of blood-letting as the principal cause in the production of one form of constitutional irritation, is easy of explanation. It can furnish, however, but one of the conditions—the want of power to act. The increased disposition to act, must be the result of some other cause co-operating or pre-existing. When persons in ordinary health lose, by casualty, a great quantity of blood—even enough to produce extreme exhaustion, and no local irritation exists, or is created at the moment to destroy the balance of action, no state of disease, except, perhaps, transient syncope, necessarily results;—the harmony and regularity of action is preserved, only it is rendered extremely feeble. But often this loss of blood is accompanied with the infliction of severe local injury; and if so, the power of that local injury to produce constitutional irritation, is greatly increased by the hemorrhage. Severe surgical operations, in which there occurs great loss of blood, not unfrequently occasion this form of general disturbance. Severe wounds, complicated with hemorrhage, are often followed by similar consequences. Parturient females, who suffer copious uterine hemorrhage, have necessarily a greater or less degree of uterine irritation, and often, indeed, an unusual degree of it is the cause of the bleeding. Constitutional irritation, therefore, is often a form of child-bed sickness.

40. SYMPTOMS AND DIAGNOSIS OF PRIMARY CONSTITUTIONAL IRRITATION.—The character exhibited by constitutional irritation will depend, in a degree, on the nature of the causes which develope it. The agitation, for instance, which arises from severe local injury, may be expected to differ, in a degree, from that which is induced by sudden and great loss of blood.

41. *Constitutional Irritation from local injuries.*—When a person is felled to the ground by a blow, his fall is not so much occasioned by the physical impulse of the body which strikes, as by the paralyzing influence which is exercised upon the nervous system. It is not so much the momentum of the blow, struck by the pugilist, which causes the fall of his adversary, as it is the hurt which some sensitive part feels, and the agitation which, in consequence, the nervous system suffers. By such an injury,

the individual is, for a moment, astounded, and perhaps loses for an instant his consciousness. The sensitive principles of life are, for a moment, called off by this new impulse from the ordinary exercise of their offices. After a brief interval, however, if the cause be thus slight, the surprise passes away, and no considerable local injury remaining to keep up the effect, the regular train of vital actions is resumed.

42. In another instance the injury may be more severe, either because the shock is more generally communicated to the body, or because it produces organic lesion in some sensitive part. An individual has perhaps fallen from a height, and, although no solution of continuity may have been produced, the whole body has received a severe concussion. The shock is felt especially by those delicately organized and sensitive structures, the brain and nerves; the system is, as it were, electrified by a new and overwhelming impression, and the organs are made to abandon for a time their ordinary offices. The patient lies motionless and unconscious;—he is, indeed, in a state of suspended animation, there being for a time neither pulse at the wrist, nor respiration; his countenance is pallid, and his extremities quickly become cold. After a time, an irregular and fluttering pulse is felt at the wrist—he heaves a deep sigh, and moves his limbs or body. These evidences of returning life become every moment stronger—warmth begins to be restored to the surface—consciousness returns, and he is roused as if from sleep, with often not the slightest recollection of the mode in which the injury was inflicted. Often, at the commencement of re-action, vomiting occurs, especially if food has been taken but a short time before. There exists an instinct in the stomach, which prompts that organ to unload itself of its contents, whenever its office is suddenly interrupted. The effort of vomiting, by the mechanical impulse which it gives to the heart, great vessels and lungs, aids to restore the circulation, and to render re-action complete. Some degree of febrile excitement now supervenes.

43. When a wound of no great extent is the source of constitutional irritation, as there is no general shock, the prostration does not so instantly occur. After a few moments syncope takes place, marked by the phenomena above described; and lastly, re-action either concludes the pathological state, or passing beyond salutary bounds, establishes febrile excitement.

44. But when the injury is extensive—when, for instance, a

wound by a musket ball is inflicted upon important parts, or a limb is carried away by a cannon shot, a degree of constitutional irritation is the instant consequence. The patient almost always falls, though often, from the benumbing influence of the blow, unconscious of the cause which prostrates him. His surface becomes cold, his pulse small and irregular, his breathing anxious, and he is restless.

45. The immediate effects of such injuries are, however, exceedingly various; sometimes even a member being carried away, and the system remaining scarcely conscious of the mischief. This is dependant in part on difference of constitution—partly, also, on the mode in which the injury is inflicted, but more especially on the presence or absence of excitement at the moment. In the rush of battle, the moral excitement created, is the most vivid of which our nature is susceptible, and it so strongly pre-occupies the sensibilities of the nervous system, as to render it wholly insensible to agents which would be keenly felt at any other moment.

46. There often results from profound injuries, such as a compound dislocation or fracture of an important joint, or the abstraction of a limb by cannon shot, a state of complete prostration of the vital powers, which French surgeons have denominated "stupeur." In this form of constitutional irritation, the shock has overwhelmed the powers of the nervous system; there is complete insensibility, and death-like coldness—the whole body is completely insensible to ordinary impressions, and the patient, though conscious, is altogether indifferent in regard to his fate. Amputation may be proposed, and he manifests no interest—replying, perhaps, as did Quesnay's patient, "ce n'était pas son affaire." "It was no affair of his." The proposition for it is unheeded, and the execution of it unfelt. The pulse of the patient in this condition is frequent and feeble—his respiration faint—the eyes fixed with an unmeaning gaze—the mouth agape—the tongue dry. The wounded parts are flabby and cold, and there is a passive exudation of dark blood, but no active hemorrhage. The only suffering of which the patient complains, is distressing oppression at the præcordium, and this increases to a most agonizing degree, as the disease approaches its usual and fatal close. The patient complains as if his breast was crushed in by an insupportable weight, smothering his respiration; he disencumbers himself of bed-clothing with an eager effort, and

tears his very shirt from his bosom. He tosses himself from side to side with desperate efforts, and the slightest restraint from the hands of his attendants, appears to double the præcordial distress. Should recovery take place, which is rare, re-action slowly occurs, and these traits of irritation are gradually merged in febrile excitement.

47. Severe and extensive burns are common causes of constitutional irritation, and especially when widely affecting the skin—not destroying, but strongly irritating, that sensitive tissue. For reasons already named, and because of the comparative excitability of the skin, such is very frequently the result of cutaneous burns and scalds in children. It is well known that in such cases, the infliction of the injury is promptly followed by evidences of prostration; there often occur rigors, the pulse is frequent and small; the face is pallid; the patient often vomits; convulsions not unfrequently arise; sometimes no re-action can be induced. Visceral congestions undoubtedly supervene on the irregular and unequal action, and modify the pathological character of the case; but I am further persuaded that the first condition is one of irritation, from the promptly beneficial effects of anodynes when administered at an early period.

48. A blister created by any vesicatory on an irritable skin, and especially in one not accustomed to their impression, is a common cause of transient constitutional irritation. Perhaps immediately after the first dressing of the blister, a rigor occurs, accompanied by syncope, and distressing sense of prostration and præcordial oppression, which symptoms are usually soon dispelled by the spontaneous occurrence of re-action.

49. Surgical operations are a frequent source of constitutional irritation, and the probability of its production, in a greater or less degree, is always to be taken into account in deciding upon a resort to the knife. The form of irritation thus arising, is similar to that which is caused by accidental wounds, but is often more severe, because of the protraction of the local hurt, and the influence of the imagination, which for obvious reasons is here more exercised. Surgical operations are also often necessarily performed upon parts which are irritable or inflamed, and when the constitution is already in a state of morbid susceptibility. These are causes which cannot fail to increase the effect of the injury on the system. On the other hand they are often deferred until excitement has passed away, and until the system has become so habituated to the influence of a local irritant, that the

knife produces less constitutional disturbance than it would in the ordinary healthy condition of the system.

50. Painful and protracted surgical operations on sensitive individuals, and especially on children, are sometimes productive of convulsions, which may be regarded as one of the strongest demonstrations of constitutional irritation. Convulsions are sometimes induced in the parturient female, at the moment that the suffering caused by a difficult labour is aggravated, perhaps necessarily, by the employment of instruments to accomplish the delivery. The operation for hare-lip on very young and sensitive infants has sometimes been followed by convulsions. A rigor not unfrequently follows a severe operation, and sometimes, indeed, one of simple character, some hours after its performance.

51. I have already alluded to excessive loss of blood as a source of constitutional irritation. The first effect of loss of blood in considerable quantity, is syncope. This might with propriety be regarded as a form of constitutional irritation, since it is manifest, that this state results from an impression made on the nervous system by the sudden diminution in the volume of the circulating fluid. If the loss of blood be great, and local irritation be at the same time produced, the state of syncope will often be protracted. This state is at length followed by re-action, and that generally in the direct ratio of the amount of blood lost. In the re-action following loss of blood, the action of the heart is unusually violent, amounting often to palpitation. The impulse of these quick and convulsive contractions appears, however, to be spent upon the large arterial trunks in its vicinity, strong pulsations of which are seen in the neck, and are felt in a distressing degree in the head and abdomen. When the patient sits erect, so strong is this beat, that an obvious vibratory motion of the head is observed to take place at each impulse of the heart. Although the heart appears thus to labour in its office, the circulation is by no means effectually carried on. The surface of the body is extremely pallid and icterode, and the same is the condition of the mucous surfaces, giving evidence of an extremely feeble capillary circulation. At times, however, the face is flushed. The languid functions of the various organs give evidence of a deficiency in the supply of the nutritive fluid. The bowels are ordinarily torpid.

52. The preternatural action of the heart is by no means constant; remarkable vicissitudes are strikingly characteristic of this state. The heart appears at times to become exhausted and

discouraged with its efforts, and then there results a collapse, so sudden as to produce alarming syncope. Perhaps in half an hour after the pulse at the wrist has been felt bounding with an apparent violence which seemed to demand the instant use of the lancet, a transition so sudden will have occurred, that the patient appears almost moribund, being nearly pulseless, cold, and exhausted. At those moments when the heart is excited, the pulse at the wrist beats with a violent and convulsive throb, but it is strikingly different from the pulse of inflammation. The fluid is felt to undulate quickly through the artery, and, in the interval, to leave it empty; a thrilling sensation is communicated to the finger, and a vibratory impulse; the artery is easily compressed. This character of the pulse is probably owing, in part, to the emptiness of the vessels, there being no continuous column of blood on which the heart may act, and transmit its impulse to the capillaries. If blood be taken in this state of the disease, it presents an impoverished, thin, and watery appearance, and the coagulum is small and loose. These traits will enable the practitioner to distinguish, as it is exceedingly important he should do, this state of disease from that of inflammation.

53. A formidable variety of constitutional irritation results from the impression of certain poisons. They indeed are the most powerful and prompt irritants in nature. Their impression is primarily made on all the vital properties of the system, and especially those of the nerves. The poison may be absorbed, but still it continues to exercise its irritating influence on the elementary principles of life in all the tissues. From these lædants then the first effects which arise are those of irritation. When a person is bitten by a venomous serpent, the first effect is extreme local pain: this is followed by a rigor—sense of universal distress—prostration of the powers of life, evidenced by a pallid countenance, feeble and frequent pulse, and loss of muscular power. The poison will thus appear to have morbidly and violently impressed the excitability of the whole system, and to have disturbed the functions of the various organs. So long as this state of things exists, it is one of pure constitutional irritation, and this may be so profound that it shall persist without re-action, till it shall have brought the case to a fatal close. But generally, re-action succeeds, inflammation takes place in the wounded part, and the traits of the fever of inflammation supersede, or become superadded to, those of irritation.

(To be continued.)

ARTICLE IV.

Climate of St. Augustine. By Robley Dunglison, M.D., Professor of Materia Medica, Therapeutics, Hygiène, and Medical Jurisprudence, in the University of Maryland.

Dear Sir:

Since my work on the "Elements of Hygiène" was printed, I have been favoured by Dr. Porcher, of St. Augustine, with a diary of the weather for the months of November and December last, which afford additional opportunities for comparing the climate of Florida with that of the more northern parts of the Union. The latter month was, as every one must recollect, very inclement, and of a character to be extremely trying to the invalid, especially to one labouring under, or threatened with, pulmonary mischief. The whole winter has, indeed, been one of unusual severity, and it will be interesting to obtain an accurate meteorological register from this now fashionable winter retreat, in order that we may be able to estimate the thermometric advantages, which it possesses. Should Dr. Porcher favour me hereafter with his diary for the remaining winter, and the spring months, it will give me much pleasure to communicate it to you, for the information of the profession, and the public. Much discrepancy exists as to the best winter retreat for the phthisical invalid, but after a full and impartial examination into the advantages and disadvantages of various situations, and after a personal experience of some of them, I am not prepared to say, that any offer stronger inducements than Florida; and in this territory St. Augustine is resorted to, chiefly because of the greater accommodations which it affords,—accommodations which are annually augmenting, and must continue to augment, now that the number, flocking thither in search of health, has become so considerable. From the "Florida Herald," it would appear that nearly two hundred strangers were in the different houses of accommodation of St. Augustine, on the first of January last; and of these nearly sixty were from the State of New York.

To exhibit a comparison between the climate of Florida, and that of Pennsylvania, I have placed, opposite to the diary of Dr. Porcher, that kept at Germantown for the corresponding months, as published in the "Journal of the Franklin Institute."

Days.	Max.	Min.	Wind.	Weather.	REMARKS.
1	68°	64	NE.	rain.	stormy.
2	68	63	"	"	
3	68	64	"	"	
4	78	58	"	"	
5	68	53	"	fair.	
6	58	42	"	"	
7	60	40	"	"	
8	67	41	NW.	"	
9	65	46	"	"	
10	69	51	SE.	"	
11	70	52	"	"	
12	70	56	NE.	"	
13	72	58	SE.	"	
14	76	61	S.	"	
15	77	65	"	"	
16	77	67	SW.	cloudy.	
17	80	64	"	"	
18	72	46	NW.	fair.	
19	62	42	"	"	
20	56	41	NE.	"	Morning overcast.
21	63	43	"	"	
22	68	42	SW.	"	
23	60	36	NW.	"	
24	56	38	"	"	Overcast at night.
25	46	28	"	"	Morning overcast.
26	47	29	"	"	
27	55	33	"	"	
28	65	55	SE.	"	
29	66	53	v'ble.	cloudy.	
30	67	54	N.	fair.	Eclipse of sun.
Av'ge	65.5	49.5			

Summary.—Prevailing winds, N.E. and N.W. Weather,—fair, 23 days; rainy, 4 days; cloudy, 3 days.

Diary of the Weather at Germantown, for November, 1834.

Days.	Thermometer.		Wind.		State of the Weather, and Remarks.
	Sun rise.	2 P. M.	Direction	Force.	
1	39°	50°	E.	Moderate.	Cloudy—lightly cl'dy—rain, hail & snow in night.
2	30	40	NE.	do.	Snow—cl'dy.
3	26	44	NE.	do.	Clear day.
4	37	53	SW.	do.	Clear—lightly cloudy.
5	46	48	E. NW.	do.	Cloudy day.
6	33	48	N.	Blustering	Cloudy—clear.
7	34	57	NW.	do.	Clear—cloudy—with a heavy gale of wind.
8	44	52	W. NW.	do.	Clear day.
9	32	49	NW. S.	Moderate.	Clear day.
10	33	52	SW.	Calm.	Hazy.
11	45	47	NW.	Variable.	Cloudy—lightly cloudy.
12	34	45	W. SW.	Moderate.	Clear—hazy.
13	34	54	SE.	Calm.	Cloudy—rain.
14	46	51	SE.	do.	Cloudy—rain in night.
15	28	31	NW.	Moderate.	Cloudy day.
16	20	30	NE.	do.	Sleet and rain—cloudy.
17	28	32	NE.	Blustering	Drizzle—rain.
18	44	47	NW. W.	Moderate.	Lightly cloudy.
19	43	47	W.	do.	Cloudy—flying clouds.
20	37	46	N.	do.	Lightly cloudy—clear.
21	34	43	W. NW.	do.	Cloudy—rain.
22	32	51	SE. S.	do.	Clear—flying clouds.
23	36	43	W. NW.	Blustering	Flying clouds—cloudy.
24	33	35	W.	do.	Cloudy—flying clouds.
25	29	33	W.	do.	Cloudy—flying clouds.
26	28	40	W.	Calm.	Clear—cloudy.
27	26	44	W.	Moderate.	Clear—flying clouds.
28	34	45	SW.	do.	Clear day.
29	36	50	SW.	do.	Cloudy—rain.
30	36	46	W.	do.	Clear—lightly cloudy—sun ecl'd.
Mean	34.57	45.10			

THERMOMETER.

Maximum height during the month,		57. on 7th.
Minimum	do	20. on 16th.
Mean	do	39.83

Diary of the Weather at St. Augustine, for December, 1834.

Days.	Max.	Min.	Wind.	Weather.	REMARKS.
1	72°	60	SW.	cloudy.	
2	76	56	"	fair.	
3	65	40	NW.	"	
4	65	49	SE.	"	
5	70	59	"	"	
6	73	51	SW.	cloudy.	
7	72	56	SE.	fair.	
8	73	46	SW.	cloudy.	
9	56	45	W.	fair.	
10	58	48	NE.	rain.	
11	50	41	"	"	
12	53	35	NW.	fair.	Fine weather.
13	63	41	W.	"	
14	65	39	"	"	
15	66	36	"	"	
16	65	39	SE.		
17	63	45	"		
18	64	44	"		
19	60	50	NE.	cloudy.	
20	57	48	"	"	
21	76	56	SW.	fair.	
22	60	55	NE.	cloudy.	
23	59	54	NW.	"	Misty.
24	72	58	SW.	fair.	Fine weather.
25	75	63	"	"	
26	70	40	NW.	"	
27	54	44	"	"	
28	59	45	W.	"	
29	60	38	"	"	
30	59	33	NW.	"	
31	45	33	"	"	
Av'ge	63.7	46.7			

Summary.—Prevailing winds, SW. and NW. Weather,—fair, 22 days; cloudy, 7 days; rainy, 2 days.

Diary of the Weather at Germantown, for December, 1834.

Days.	Thermometer.		Wind.		State of the Weather, and Remarks.
	Sun rise.	2 P. M.	Direction	Force.	
1	31°	48°	SW. S.	Calm.	Clear--lightly cloudy—rain in n't.
2	40	45	S. SE.	Moderate.	Rain—drizzle.
3	32	40	W.	Brisk.	Lightly cloudy.
4	25	36	W.	Moderate.	Clear day.
5	26	46	W. SW.	do.	Clear—hazy—rain in night.
6	52	50	SW.	Brisk.	Rain—cloudy.
7	36	46	W. SW.	Moderate.	Clear day.
8	46	48	SW. W.	Brisk.	Cloudy—lightly cloudy.
9	29	36	W.	Moderate.	Clear—cloudy.
10	24	34	S. SW.	do.	Clear day.
11	24	42	W.	do.	Clear day.
12	32	36	W.	do.	Cloudy day.
13	32	40	SW.	Brisk.	Cloudy day.
14	36	20	W. NW.	Blust'ring	Cloudy—clear at 10 P.M. therm. 5
15	7	18	NW.	do.	Cloudy—sun eclipsed. [above 0.
16	28	50	W.	Moderate.	Cloudy—clear.
17	16	21	NE.	do.	Lightly cloudy.
18	24	30	NE.	do.	Cloudy day.
19	30	36	NE.	do.	Cloudy day.
20	30	36	SW.	do.	Cloudy day.
21	32	36	W.	do.	Cloudy day.
22	26	40	SE. SW.	do.	Cloudy day.
23	30	42	W.	do.	Cloudy—lightly cloudy.
24	30	30	E.	do.	Sleet—drizzle—rain.
25	30	31	SW.	do.	Cloudy day.
26	16	20	NE.	do.	Snow.
27	20	30	W.	do.	Cloudy day.
28	20	29	SE.	do.	Cloudy day.
29	26	29	NE.	Brisk.	Snow.
30	26	35	W.	Moderate.	Cloudy day.
31	30	37	W.	do.	Cloudy—lightly cloudy.
Mean	28.57	36.03			

THERMOMETER.

Maximum height during the month, 52. on 6th.
Minimum do. 7. on 15th.
Mean do. 32.30

It is proper to remark, that the register of Dr. Porcher is founded on observations made by a self-registering thermometer, which gives the lowest as well as the highest point during the day; whilst the observations at Germantown were made only at the hours indicated. Had the St. Augustine diary been formed in this manner, the point of observed depression would not have been so low, and consequently the thermometric difference between the two places would have been still more signal.

I am, dear sir,
Respectfully and truly yours,
ROBLEY DUNGLISON.

TO DR. GEDDINGS.

SPONTANEOUS SALIVATION.

IN two of the preceding numbers of our Journal, cases of this affection have been published by Drs. Mackall and Chew. We find some interesting remarks on the subject by Dr. Hauff, inserted in the *Medicinisches Correspondenz-Blatt.*

The author remarks, that he has several times witnessed the disease. It attacks females more frequently than males; and chiefly those who are affected with symptoms of derangement of the digestive organs; as dyspepsia, constipation, a furred tongue, paucity of urine, dry and harsh skin, tumefaction of the liver, and perversion of secretion in that organ and the pancreas. Females with an irritable skin, and subject to miliary eruptions, are likewise liable to this spontaneous salivation. The individuals generally complain for some time, of a sense of itching of the tongue, mouth and gums, and lancinating pains of the teeth and jaws. The gums are found red and tumid, and the summit and borders of the tongue are of a shining blueish red colour. The disease progressing, the pains become more considerable; the teeth seem to be elongated; limpid saliva flows copiously from the mouth; the commissures of the lips and the gums are covered with aphthous ulcerations, similar to those which attend a mercurial salivation, and the breath becomes fœted. Sometimes the discharge of saliva is so copious, that several vessels are filled in the twenty-four hours, and the disease may continue for days and weeks,—then subsiding, and leaving the gums red and spongy, and the teeth loose.

The treatment which was most successful, consisted of such means as are calculated to correct the derangement of the digestive organs. In one case, in which the liver was enlarged, and the individual affected with a chronic miliary eruption, Dr. Hauff succeeded promptly in arresting the disease, by mercury.

SELECTED PAPERS.

Lecture on Continued Fever, by WM. STOKES, M.D. *delivered at the Medical School, Park street, Dublin.*—SESSION, 1833–4.

(Concluded from page 46.)

TOWARDS the conclusion of my last lecture, I directed your attention to direct and indirect adynamia in fever. The first or direct is that prostration of strength which results from idiopathic or original disease; the second or indirect, is that induced by the re-action of the secondary local inflammatory or other affections. I stated that in many fevers we had both kinds of adynamia; the direct produced by fever, and the indirect by local disease, which supervenes during the progress of the original disease. The treatment must, therefore, be modified according to the circumstances of the case. The first requires stimulants; the second or indirect adynamia must be treated by antiphlogistic measures, so as to relieve the inflamed organs, but the employment of these must be much less energetic than when the organs are primarily inflamed, and we must also keep the general condition of the patient in view. The modification of treatment must be obvious, when we bear in mind, that idiopathic inflammation occurs in healthy subjects, but it supervenes on a constitution previously depressed or debilitated by the general disorder of the functions caused by fever. The local inflammations induced by fevers occur when the constitution is very much injured, when the solids and fluids are very much affected; and when the functions of innervation, respiration and circulation are in an abnormal condition. It is therefore manifest that the antiphlogistic measures must be employed with caution and judgment, and with less energy in the secondary adynamia which exists during the progress of fever.

I informed you on a former occasion of another important practical fact—that in a vast number of cases of fever, in the advanced or collapsed stage, and sometimes in the early period of the disease, the employment of stimulants, may be necessary, even in cases in which the fever is accompained by local disease. In some cases too, there is a very profound prostration in the early stage, and this was considered characteristic of putrid, or very low fever by the ancients. There is a stage in all continued fevers which is usually the advanced one, when diffusible or general stimulation will be indispensable, though there may be symptoms of local irritation or inflammation. This was the practice of the ancients, as well as of the most experienced of the modern physicians, and was extremely beneficial. The former supposed the sinking or the last stage was invariably caused by debility, and this led them to use powerful stimulants and tonics. Sydenham, Huxham, Morton, and many other English physicians employed this class of remedies, while Boate and O'Connell, who were their disciples in Ireland, and the Gregories and Cullens in Scotland, adopted this practice. I might name many eminent writers on fever, in the last and present centuries, who advocated and employed stimulants under similar circumstances, but I must observe that the profession of late years have been opposed to this treatment, because they considered local congestion or inflammation the real or immediate cause of fever. This is falling into the opposite extreme, as I trust I have already proved by incontrovertible evidence. The concurrent testimony of experienced practitioners is in favour of stimulants in the last stage of fever, and numerous recoveries have taken place by this plan, even where symptoms of local lesion were apparent. We meet with cases in which there is profound adynamia with local affections in the last stages of fever, even after antiphlogistic measures have been fully tried, and cannot be continued with safety; and, under such circumstances, the use of stimulants assists the efforts of nature, and time is gained for the treatment of the local affections. I stated, on a former occasion, that we meet with a pure essential or idiopathic fever, a disorder of the whole economy, without any primary local affection; but that local disease is, in general, complicated with, or consequent to, fever. In the former species, we are justified in employing antiphlogistic treatment, when excitement or re-action runs high; in a word, the treatment of most cases of fever is analogous to that of idiopathic inflammation. We employ general and local bleeding, but in the advanced stage we administer stimulants and tonics. I have told you, that even in all cases of inflammatory disease, a stage arrives when you must discontinue antiphlogistic measures, and adopt the opposite line of practice; in fact, you must give stimulants; and the same thing obtains in fever, whether we view it as a primary affection of the whole system, or as complicated with local irritation or inflammation. I informed you also, that you might, in many cases, combine antiphlogistic and stimulant remedies; the latter to be so regulated as to support the strength without increasing the local affection. We often meet local inflammation, pneumonia, enteritis, &c. in the advanced stage of fever, and in such cases, while we reduce the local disease, we must support the strength with nutritious aliment and wine. There is an important remark made by Dr. Grant, in his work on Fever, with respect to this point, which I shall quote. "I know," says he, "two physicians, both in considerable practice, and both honest men, who have constantly treated fever badly from different causes. The one never gave cordials, wine, or nutritious food, during the whole disease; the other, after the fourth day, never gave any thing else. A combination of both these modes, employing each according to the circumstances of the case, would be very excellent practice. Their error, however, was not entirely the same, nor did the same effects result from these opposite modes of treatment. The patients treated by the physician who persevered in the antiphlogistic system seldom died, but their recovery was tedious and protracted. Those who were treated by stimulants throughout the entire disease, seldom recovered." You perceive, gentlemen, how well these remarks accord with the treatment I have already recommended in fever. The first physician generally cured his patients, but their convalescence and recovery were slow, because he used antiphlogistic too freely, and for too long a period. He was ignorant of the fact, which I have repeatedly mentioned to you, that after a certain time, and at the advanced stage of the disease, antiphlogistics lose their efficacy; and his patients may, therefore, have recovered by the unaided powers of nature. He was also ignorant that, in the last stage of fever, the disorder of innervation requires stimulants, though inflammatory action may have previously existed. The other physician was no better informed, for he employed nothing but stimulants, being ignorant of the frequent complication of local inflammation with fever, and, consequently, lost or destroyed his patients by the premature and indiscriminate use of stimulation. There cannot be the slightest doubt, that the practitioner who blindly follows one mode of treatment in every case of fever, will be most unsuccessful.

I shall now proceed to describe the analysis of the respiratory symptoms and their treatment. I have already noticed the nervous systems; and the next in order are those of the respiratory system. I wish to make some further remarks on the cerebro-spinal system, and to direct your attention to some researches which have been lately made on the spinal and ganglionic systems during fever. The result of these researches is very unsatisfactory, and throws no manner of light on the nature or treatment of fever. This is a singular fact, and one very frequently observed, that in many cases of fever characterized by disordered nervous symptoms, as delirium, coma, &c. we cannot detect any morbid appearance after death, either in the brain or its membranes, or in the spinal cord. It is true, however, that in a few rare cases, the sympathetic nerves were found affected; but this was observed so seldom, and with so little constancy, that it is impossible to establish any direct connection between a diseased state of the ganglionic system of nerves and typhus. Let us now examine the symptoms furnished by the respiratory system during fever.

We frequently observe pulmonic symptoms in fever, and these may be slight or severe. When slight, we can readily remove them, but when severe, as in bronchitis, they often cause death by asphyxia, from excessive secretions. This is frequently the result in aged persons, who have long suffered from what is called "winter cough," or, to speak more correctly, chronic bronchitis. There is one general observation which applies not only to derangements of the respiratory system, but equally to those of every organ during fever, and this is, that the functional derangement of each organ is seldom proportional to the morbid appearances after death. The thoracic symptoms may be apparently slight, and by no means such as to excite alarm, though after death we shall find universal bronchitis, extensive pneumonia, or considerable congestion. This insiduous latency of disease is remarkable in all inflammatory affections during the progress of fever. It may, perhaps, be explained by considering the deranged and depressed state of the nervous system during fever, which impairs and blunts sensibility; and hence the patient does not complain, though the symptoms of disorganization may be observed as not to attract sufficient attention. This view was entertained by Hippocrates, who said, in his aphorisms, that in case of severe disease, when the patient does not complain of any pain, there is disease of the brain; and thus he accounts for the absence of severe pain by the disordered state of the brain.

In describing catarrh combined with fever, you are to remember that this, as well as all other local inflammations, is secondary or symptomatic. It is in this sense we view such local lesions. Thus, when I mention catarrhal or gastro-catarrhal fever, I do not mean the fever when these diseases are idiopathic, but when they are symptomatic of typhus, or are the result of that disease. I have adduced many arguments to prove that cerebral affections were not the cause of fever, neither are those of the respiratory or digestive system. The conclusions of Andral, Louis, Laennec, and various British authors who have written on fever, agree on this point. I would strongly advise you to peruse Laennec's work on Auscultation, in which you will find proofs of the great attention this illustrious man had devoted to the secondary affections of the lungs in fever.

It often happens that we meet with bronchitic affections, which may exist during the whole, or the greater part of the period of fever, attended with such little violence, that the patient may recover without any remedies having been employed; and others will pass through a continued fever, having but slight congestion depending on inflammation of the bronchial mucous membrane, without any notice having been taken of it. It is important to know that such slight affections may, at the end of seven or ten days, become so formidable as to assume a very intense character, and even destroy the patient. In all cases where there is cough, you should examine the chest daily with the stethoscope, and also employ percussion in the manner which I shall mention immediately. In such cases auscultation and percussion are of inestimable value, as a means of diagnosis. The existence of a slight cough or bronchitis does not warrant an unfavourable prognosis; but it should always render you cautious in forming one. Watch the progress of the catarrhal symptoms, and be certain that you do not allow them to advance. In a case in which there is cough which is not troublesome, you will, in general, find a few sonorous râles, though the respiration is clear on percussion. There is no danger in such a case; but if the symptoms increase, if the countenance become livid, the breathing extremely difficult, there is then a dangerous bronchial affection. In many cases, though there may not be a symptom of bronchitis, we discover the most intense form of this disease on employing auscultation. In such cases, persons unacquainted with the use of the stethoscope, and who depend on symptoms only, may be led into fatal errors. Even those acquainted with auscultation, fall into serious errors, by neglecting to make a proper examination. Again, if you apply the stethoscope while the patient is lying on his back, and breathing in the ordinary manner, you can only ascertain a feebleness of respiration, with a partial sonorous râle. If you were to form a prognosis from such superficial examination, you would most assuredly fall into error, for though the râles may be few and isolated, on raising the patient into the sitting posture, and desiring him to make a full respiration, so as to cause the air to enter the minute bronchial tubes and air vesicles, the râles become intense and audible over a large portion of the lung. It is right to state, that the middle inferior and posterior parts of the lung are most commonly affected with bronchitis, and this disease may simulate pneumonia. In such cases it is singular, that according as the patient gets better, the râles become louder and more distinct; and here we have the anomaly of increase of sound indicating a decrease of the disease. This is explained by the fact, that when the bronchitis is at its height, the minute bronchial tubes and air vesicles are principally engaged, and the engagement of the mucous membrane causes an increased quantity of mucus, which fills them and prevents the ingress of air; and the consequence is, that the râle is scarcely heard; but when the disease is on the decline, and the minute tubes become free, the bronchitis, being confined to the larger tubes, we can then hear the sonorous râle distinctly during ordinary respiration. It is right to state, that many of these cases terminate fatally. In such cases there is a low adynamic state, the respiration is hurried, the face is livid, there is a râle or rattle in the throat, and in a few hours the patient dies.

Dissection shews marks of intense bronchitis, and the bronchial tubes are filled with a sanguinolent viscid mucus. In some of these cases there is an excessive secretion from the bronchial mucous membrane, which takes place suddenly, and destroys the patient. It is a remarkable fact, that such cases are often complicated with gastro-intestinal irritation or inflammation; and this is one of the commonest and most fatal forms of fever. Sometimes the disease is most urgent in the respiratory, and at other times in the digestive system, and, in some instances, there is an alteration of morbid action between thoracic and abdominal disease. On one day, the cough and auscultic signs of bronchitis are prominent, but in a day or too, these symptoms are absent, there is pain and tenderness of the abdomen, and the tongue has become red and parched. Again, the abdominal symptoms disappear, and the thoracic return, and thus we have repeated alternations of the thoracic and abdominal symptoms so frequent as to be considered the commonest form of fever. It is, therefore, most important in practice to bear in mind, that while we prescribe for the chest affections, we must be careful not to irritate the digestive system.

It is worthy of remark, that bronchitis is accompanied by more lividity of the countenance than pneumonia. This fact is in accordance with the opinion, that the portion of the lung in which aeration is effected, is the bronchial mucous membrane, and not the air vesicles. When the air cells of the lung are inflamed, there is very little lividity; but we never see a severe bronchitis without it. I may mention here, that I have seen many cases of lividity, in which the temperature is very much increased, a strong proof that animal heat depends on something else besides the aeration of the blood.

Symptoms of bronchitis may be well marked, or entirely absent, during fever, and so may those of pneumonia, but in both cases auscultation is of extreme value, by enabling us to form an accurate opinion on the exact nature of the morbid lesion. It is also important to know that the symptoms of pneumonia are most commonly absent. This is the most frequent state of things during typhus. In these cases we often observe the patient to get much worse, and all the symptoms of sinking to appear suddenly, but under such circumstances we often discover the existence of latent pneumonia, or some other visceral lesion. We detect the crepitating râle over a portion of, or the whole lung, and the chest sounds dull on percussion. Now I contend that a practitioner who is unacquainted with auscultation or percussion will entirely overlook such cases, and I should say is wholy incompetent to undertake the treatment of any case of fever. In my opinion there is no excuse for any practitioner who neglects the study of auscultation, unless compelled by defect of hearing; and those who oppose the stethoscope, or ridicule it, are generally persons who are either too old or too lazy to learn, and who, in the cases under consideration, are wofully bad practitioners. It has been stated by some writers that the lesions of the respiratory organs are in general of a more congestive than inflammatory nature, but this conclusion I believe to be erroneous. I have repeatedly found, in a vast majority of such cases, all morbid appearances of acute inflammation, thickening and ulceration of the bronchial mucous membrane, and sanguinolent secretion, more frequently than congestion. But

I would ask those who are of a different opinion, how they can detect such lesions when all symptoms are absent, unless by auscultation? I should also ask them how they could distinguish such lesions when the patient is delirious, and his respiration scarcely disturbed? It must be obvious to every one of you, that, in such cases, auscultation and percussion afford the only means of forming an accurate diagnosis; and without the employment of these, the real cause of the mischief cannot be detected, an erroneous view will be taken of the case, the sinking will be ascribed to debility, stimulants will be exclusively employed, with the positive certainty of aggravating the actual disease, and the patient will indeed be destroyed. I hold it as essential to examine the chest in the advanced period of fever, at every visit, as it is to press on the abdomen and hypogastric region, because, during this stage there is frequently either inflammation of the thoracic or abdominal viscera, and frequently distended bladder, which requires the repeated use of the catheter. Physicians have for a long time pressed on the abdomen in the last stage of fever, when there was low muttering delirium, and when the patient is of course unable to direct their attention to this region; and they very often detected pain on pressure, or a distended bladder, and on dissection they found that intense inflammation of the bowels had in reality destroyed the patient. The conclusion is therefore well founded, that in the last stage of fever, we should daily examine the state of the thoracic and abdominal viscera, and employ every means of diagnosis, so as to form an accurate opinion on the state of these organs.

But to resume my observations on the morbid lesions of the respiratory organs, I have to mention a remarkable circumstance, namely, that of all tissues which compose the viscera of the chest, the pleura is least liable to morbid lesion. This is proved by a great number of recent dissections, which shew that bronchitis and pneumonia were entirely absent. In idiopathic pneumonia there is generally some degree of pleuritis, but in pneumonia of fever the latter is observed very rarely. This, as well as other observations with respect to tissue, establish the fact, that mucous and parenchymatous tissues, are most commonly attacked with inflammation during the progress of fever. It is, however, true that the effusion of bloody serum into the cavity of the pleura is a common occurrence in fever, but is still rarer than the former lesions. It is a well known fact, that inflammation of the serous membranes during fever is comparatively of rare occurrence. We occasionally meet with arachnitis, but very seldom with pleuritis, pericarditis, or peritonitis. Though we frequently observe pneumonia and enteritis yet pleuritis and peritonitis are seldom present in such cases. This leads us to the conclusion that serous membranes are least liable to inflammation during fever. I think we may explain the exemption of serous membranes from inflammation during fever by the fact, that they possess but little sensibility, and (for we cannot trace nerves in them) they are only supplied with white blood, which is least affected during fever.

But though I impress upon your attention the frequent existence of inflammation of some one of the pulmonary tissues during fever, I must also inform you, that you may observe all the symptoms of chest effusion, though every auscultic sign may be absent. In such cases thoracic effusion depends on functional derangement; it is purely sympathetic, and generally caused by gastro-enteritis. Here, again, you may have additional proof of the value of auscultation. Without this means of diagnosis you would treat a symptomatic for a real affection. It enables you to discover that the thoracic organs are free from disorganization, and consequently it directs your attention to other tissues, as the cause of derangement in these organs. But you must always remember that functional derangement, when of long duration, very generally terminates in actual disorganization. This fact applies to all organs; but functional derangement, when unaccompanied by fever, may continue for a long time without terminating in disorganization. Neuralgia in the different organs affords many examples. It is also a fact, that when disorder of the function is accompanied by fever, disorganization very generally occurs. There is another fact as regards thoracic inflammations which I have frequently observed, and one that you should remember—it is this: that when there is gastro-enteritis, succeeded by functional disorder or disorganization in the lung, the lower lobe of the lung is most generally affected. There seems to be a stronger sympathy between the left lung and the stomach than the right, and this has been long observed; in fact, there is a stronger sympathy between the organs on the same side of the body. In cases of fever where there is gastro-enteritis, you should therefore direct your attention to the left lung or side of the chest. Another proof of the validity of this pathology is, that inflammation of the lower lobe of the left lung is frequently connected with gastritis and pericarditis. This sympathy requires further explanation than that given by Hunter, who referred it to the contiguity of organs.

It is important to mention that the disease of the lungs may assume a chronic form in fever; we often observe that the bronchial symptoms may be mild during fever, but very often on the cessation of fever become formidable, and induce phthisis. There appears to be something in fever which has a strong tendency to excite the development of tubercles. We have had numerous examples of this kind in the Meath Hospital; you will find an account of them in a paper of mine published in the Transactions of the Dublin College of Physicians, during the epidemic of 1826. We frequently observed that our patients who were recovering from fever were suddenly attacked with phthisis, which terminated rapidly. The disease ran through all the stages from the recent development of tubercles to the formation of cavities. In one case the patient died of consumption in seven days after his convalescence from fever. Here is a strong reason for careful and repeated examination of the chest in fever. If towards the termination of fever you discover dulness of sound under one or both clavicles, with diminished respiratory murmur and other signs of phthisis, there is reason to suspect the existence of tubercles. If the symptoms increase daily, you may be certain of your prognosis; but you must remember that bronchitis after fever very strongly simulates phthisis. A patient after fever, who in a debilitated state will, if attacked with bronchitis, have the usual symptoms of phthisis, will labour under bad cough, copious expectoration, laborious breathing, and hectic fever; yet in many instances recovery may be expected by judicious treatment.

There is another condition of the lungs in fever, which demands great attention; it is a congestion of the posterior and inferior parts of the lungs which is observed in the last stage of typhus or other diseases, in which the patients have been a long time on the back. It is also most common in debilitated and aged persons. It may cause death by obstructing the pulmonary circulation and asphyxia. It occurs in the last stage of fever, when death approaches, and was called perepneumonie des agonizans, by Laennec; but I think he has taken a limited view of the subject, for it may come on long before the termination of fever; in fact, it may occur in all cases in which the patient has reposed on the back. It bears a strong resemblance to those spots and discolourations observed on the back soon after death, which we call cadaverous lividity, and which are induced by the gravitation of the blood to the most depending parts.

When we raise a patient in the last stage of fever, who has been for a long time on his back, and examine the postero-inferior part of his chest, we will find more or less dullness on percussion, and sometimes a degree of crepitus, but after the patient has remained a short time in the erect position, the morbid symptoms disappear as the lung regains its ordinary permeability, unless the congestion has existed for several days. This condition was noticed by Avenbrugger in exanthematous diseases, and by the celebrated Boyer, in cases of fracture, in which he advised that the patient should not be too much on his back. According to the researches of M. Piorry, this kind of congestion is most common in aged or debilitated individuals, and in those labouring under disease of the heart. This disease is scarcely remediable in aged persons, or those under the circumstances mentioned in the last stage of fever. Leeches and counter-irritation may be useful in some cases, but cannot be employed in others. The great object is to prevent congestion by a frequent change of position, and hence we recommend that patients in fever should repose on either side in preference to the back, and be frequently changed. But in the last stage of typhus the patient lies on his back, which favours the production of congestion; and it was observed by our predecessors that this position shewed great prostration of strength, and was a bad symptom, though they could not explain why it was so. It depends on one or more of the following causes:—1st, lesion of innervation; 2nd, change of the blood; 3d, position; 4th, want of proper function in the lung, for a patient expands the posterior part of his lung but very little during respiration, when he lies on his back. Such are the causes of this hypostatic pneumonia. In some cases I have found the use of cupping glasses and blisters of service. In such cases we must support the strength with wine, ammonia, and the decoction of polygala.

I shall now direct your attention to the treatment of catarrh and pneumonia in fever. At one time I was rather opposed to bleeding in such cases, as in some cases it did but little good, and in others great injury. I have subsequently seen depletion of great value in robust subjects in the early stage of fever, when the dyspnœa depended on inflammation, and not on an enormous secretion into the bronchial tubes. The diagnosis in such cases is readily made by the use of the stethoscope. Now you should know that dyspnœa depending on inflammation, will be removed by depletion, but that caused by copious secretion will not. In the latter case the loss of blood will increase the danger of asphyxia, for in proportion as the prostration of strength increases, the power of expectoration fails, and the tracheal râle supervenes. If a young robust subject suffer from catarrh in fever, was attacked with bronchitis and had hot skin, full strong pulse, and a good deal of re-action, you might employ general bleeding. In such cases I have used it with the best effects, though as a general rule in pulmonary diseases during fever, I think local bleeding preferable; cupping, leeching, and even dry cupping, afford great relief, and often effect a cure. The last is a very valuable remedy indeed, and one of the best in the bronchitis or pneumonia combined with typhus. I have repeatedly removed a degree of congestion sufficient to cause dullness by this remedy alone, and the disease disappeared in twenty-four hours: you also may apply blisters with advantage, and order small doses of ipecacuanha, calomel, or the compound ipecacuan powder.

In cases in which there is an excessive secretion of mucus into the bronchial tubes there is great danger of suffocation. In such cases you must support the strength, and order ammonia, polygala, wine, nutritious food, and the camphorated tincture of opium: one of the best proofs of the good effects of wine in such cases, is the falling of the pulse. It is also very important to observe the temperature of the body, and I feel so convinced of this, that for a long time past I have been in the habit of ordering the body to be clothed with soft flannel; and I am confident that this is of great utility. But we sometimes meet with cases in which the patient is threatened with suffocation from the bronchial obstruction in the lungs; under such circumstances we exhibit emetics, but all of these may fail to act on account of the insensibility of the stomach. This state of the stomach depends on lesion of innervation, on asthenia of the organ, and according to some, on determination of blood to another organ, or on imperfect aeration of the blood. I have produced vomiting so often as five or six times, and yet the patient died of suffocation. The profession are much indebted to my friend Dr. Mackintosh, for directing their attention to this disease. My colleague, Dr. Graves, has also made some important additions to the treatment. In one case he applied a moxa along the course of the eight pair of nerves, and in three others, he ordered an enema composed of starch, ten grains of quinine, and thirty drops of tincture of opium. By this means he supported the strength, and prevented the mucous secretion, for it was long known that opium will check the bronchial secretion in common catarrh. I would advise you to peruse his paper in a late number of the Dublin Medical Journal. The last pulmonary disease in fever is pneumonia, which will be detected by auscultic signs, dullness of sound over a greater or less extent of the lung, fullness of respiration, and the respiratory râle. If the patient be robust, the strength but little impaired, the fever inflammatory, the prognosis is more favourable. In such cases one small bleeding may be used; but even this requires great caution; you cannot deplete as in common pneumonia. We next use local bleeding, dry cupping, blisters, and calomel with opium. It often happens that the gums become affected by the mercury in three or four days, but then its effects go off, and in a day or two return. It is also remarkable, that ptyalism is very seldom produced. Tartar emetic is improper in this kind of pneumonia, as it can never be employed, except after copious bleeding, which cannot be resorted to in typhus. There is also another contra-indication to it—the complication of gastro-enteritis; and whenever this exists, tartarized antimony cannot be employed with safety. We, therefore, prefer calomel and opium, local bleeding, blistering, stimulating expectorants, with a nutritious diet. When the surface of the body becomes cool, the pulse weak and small, and prostration considerable, we should use wine. The disease disappears very slowly, the convalescence is tedious, and the patient requires constant watching.

[*London Medical and Surgical Journal, Jan.* 1835.

REVIEWS.

Admonere voluimus, non mordere.——
Sunt bona; sunt quædam mediocria, sunt mala plura.

Traité Theorique et Pratique des blessures par Armes de Guerre, rédigé d'après les leçons cliniques de M. Le Baron Dupuytren, Chirurgien en chef de l'Hotel Dieu, et publié sous sa direction par M. M. les Docteurs A. Paillard et Marx, 2 tome, pp. 522 and 527, Paris, 1834.

Theoretical and Practical Treatise on wounds inflicted by Arms of War, &c.

Few surgeons have been so successful in their professional career as M. Dupuytren, and none have acquired a more brilliant reputation. Possessed of excellent judgment, a retentive memory, and great zeal and enthusiasm in his professional pursuits, he added to these qualities, a remarkable penetration, a quickness of perception seldom witnessed, and which admirably fitted him for the investigation of diseases. And for this purpose, no one perhaps ever enjoyed greater opportunities. Entrusted with the charge of one of the most extensive hospitals in Europe; enjoying moreover a large share of private practice,—he could not fail to be familiar with the nature, and various forms of disease;—and it was particularly at the bedside of the patient, that his superiority in diagnosis, and excellence as a practitioner, were strikingly manifest.

Among the different classes of disease or injury, which the surgeon is called upon to treat, there is one, the entire knowledge of which cannot be obtained in time of peace, neither in the quiet walks of the hospital, nor in the gradual course of a private practice, but must be sought among the horrors of war, and scenes of death and bloodshed. It seldom falls to the lot of surgeons at home, to have opportunities of witnessing the effects produced by arms of war. The war, however, of 1814–'15, and the celebrated revolution of July, 1830, afforded to M. Dupuytren these advantages;—the wounded were received into the hotel dieu, and placed under his guidance and direction. It was from the observation of these numerous cases of injury, that the principles contained in the work before us were derived; and to these, in fact, it owes it origin. It is indeed a series of lectures delivered by M. Dupuytren, at the request of several physicians and surgeons, as well as students and strangers. The work itself consists of two volumes, the first of which is taken up with the consideration of wounds in general, without reference to the particular part or region in which they may be inflicted. It is divided into twelve chapters. The 1st is devoted to a description of the different weapons or arms of war, which are in modern use, and contains much that is curious and interesting, particularly to the military surgeon. We shall omit this, however, and pass to the consideration of the effects produced by these agents—subjects with which we are more particularly concerned.

The effects produced by arms of war are exceedingly various, and must depend, of course, upon the nature of the weapon, the force with which the injury may be inflicted, and the nature of the organ or part concerned.

As almost every thing has been applied to the purposes of war, and may be used as a weapon, offensive or defensive, the appearance and the nature of wounds, produced by these agents, vary exceedingly; some inflicting injury, by division of the tissues or by hemorrhage; others by violently bruising or tearing the parts, &c. Hence, M. Dupuytren has made a division of wounds into—"1st, punctured—2d, incised—3d, wounds by puncture and division—4th, contused wounds—5th, wounds by commotion—6th, wounds by crushing of parts, (*ecrasement*)—7th, lacerated wounds—8th, wounds par arrachement—9th, wounds by attrition, i. e. such as are caused by bodies propelled by the force of air or steam—10th, wounds produced by small fire-arms, as guns, pistols, &c—11th, wounds produced by cannon balls, &c.—12th, wounds produced by gunpowder.

In wounds produced *par arrachement*, there is laceration produced simply by excessive extension; or this may be united with torsion. The cases of limbs torn off by machinery will illustrate this. We have used the word in this place, as its meaning could not be fully expressed by another in English. Under the head of punctured wounds, M. Dupuytren alludes to the effect produced by round and pointed instruments, as bodkins, spindles, &c. The form of the wound inflicted by these instruments seems not to have attracted attention, although, from its singularity and difference of character from that which has generally been supposed, it is worthy the attention of the medical jurist. From several observations made upon the living and the dead subject, M. Dupuytren has ascertained, that wounds made by these instruments are similar, in almost every respect, to those inflicted by cutting weapons. The borders of the wound are even and nearly in apposition, and if they are separated, slight tension of the skin will effect their union;—punctures of this nature always have the same direction in the same region. In the neck, and on the anterior part of the axilla, the direction of the puncture is from above, downward. On the thorax, they are parallel to the direction of the ribs, or the intercostal spaces. On the anterior part of the abdomen, they are oblique from above downwards, and seem to assume the direction of the muscular fibre. In the middle of this region they are vertical, while on the members they are parallel to the axis of the limb. These facts appear to show, clearly, the different direction of the fibres of the skin in the different regions, and the instrument seems to act merely by separating them.

Case.—"Charles Levauvre, aged 33, strong constitution and sanguine temperament, attempted suicide by stabbing himself three times in the region of the heart with a pointed bodkin. When taken to the hotel dieu, three small wounds of two lines in length were observed opposite the 7th rib. The lips of the wound were equal and very near each other, and the angles of it very acute. They were parallel with the rib, and resembled those made with a penknife. The weapon was procured and several punctures made on the dead subject, which presented the same appearance.

In wounds of the hollow organs, the injury produced varies greatly, according to the state of emptiness or distension, and our conduct must vary accordingly. Should the weapon which has inflicted the injury be still retained in the wound, (suppose it were the bladder,) the urine should first be drawn off by the catheter, before the weapon is removed, otherwise the sudden withdrawing of the instrument might suffer the urine to escape into the cavity of the abdomen, and produce the most intense inflammation and even death. Should it be in the heart, it would be necessary, in the first place, to diminish the quantity of circulating fluid by v.s. Many cases are on record, of wounds of this organ, in which the patient recovered. Its structure, indeed, is well adapted to secure it against the usual consequence of puncture of the hollow organ, —the loss of blood being prevented by the oblique arrangement of its fibres, as well as their contraction, which is sure to ensue.

In speaking of wounds of the articulations, after enjoining the usual rigorous antiphlogistic treatment, M. Dupuytren recommends the application of a blister around and upon the wound itself; and speaks of this treatment as peculiar to Fleury De Clermont.—It may be new in France, but the practice is familiar enough in this country, and was we believe first recommended by Dr. Physic.

Foreign bodies, although, for the most part exciting inflammation in the organs in which they are lodged, do, it is well known, often remain in the system for years, without producing any or very serious inconvenience. This is the case with some even, which are very sharp and pointed; and of this M. Dupuytren relates a curious instance: "An officer, with a view to commit suicide, inserted in the region of the heart, one of the long black pins, known by name of *epingle a friser.* This pin penetrated the pericardium and heart, and remained in this viscus during life time. After death the pin was found, the officer having died of another disease."

M. Dupuytren has often had occasion to observe the condition in which foreign bodies exist in the different parts of the body. "Whenever they excite inflammation and suppuration, they are enveloped by a purulent cyst of the nature of mucous membrane, and, at the end of a certain time, a fistulous communication is formed between them and some point of the surface or interior of the body. On the contrary, when they excite neither inflammation nor suppuration, we find them surrounded by a cyst, the form of which corresponds to their own, but whose organization is similar to those of the serous membranes. In their cavity is constantly observed a limpid serosity, analogous to that which lubricates the serous membranes. This remark is not only curious, but important, with regard to practice. If, indeed, in extracting these foreign bodies, we remove them only after making a simple incision of the cyst, and then close the wound, in order to obtain union by the first intention, we find almost always a new tumour produced, by the quantity of serum developed in the sac. It is necessary then, when extracting balls to remove the cyst which surrounds them, or to fill it with charpie, in order to excite inflammation, and obtain adhesion.

But although foreign bodies sometimes remain at rest in the tissues, and give rise to little or no irritation, it is well known that they often travel an immense space of the surface, and even penetrate deeply the interior of the viscera. Particularly does this apply to sharp and pointed substances, as pins, needles, &c. If they traverse the body rapidly, they leave no trace of their passage through the organs. On the contrary, if their passage is slow, they are surrounded by an adventitious serous membrane. In general, they have a tendency from the interior to the external surface. Sometimes, however, this is reversed; but even then there is a strong determination to the interior of the intestinal canal, which in fact may be considered as a continuation of the external surface. It is an interesting fact, remarked by M. Dupuytren, that substances traversing the serous membranes never fall into the interior of these sacs, whereas they frequently, after piercing the serous tissue, penetrate into the mucous cavities. Thus pins which have been swallowed, have been known to pierce the bladder, and being there retained, give rise to the symptoms of stone, and actual formation of a calculus. Of this M. Dupuytren cites an instance. The above cases show a most beautiful provision of nature. We see these substances almost by instinct, as it were, shunning the serous cavities, where they could not fail to excite inflammation, and all its pernicious consequences, and tending towards the mucous surfaces, which either readily allow their elimination, or at least support their presence with less irritation. There is a singular and almost incredible propensity among some females, to swallow pins, needles, and other sharp and pointed bodies. M. Dupuytren has remarked several cases of this kind in the hotel dieu, and among others, that of a female, who swallowed an enormous quantity of pins and needles, and was reduced by the suffering and pain occasioned by their progress through the skin to a great degree of emaciation. He has opened more than a hundred abscesses, on the body of this female, in which there were always one or two needles or pins. Hardly any movement could be made, without experiencing the greatest suffering. The patient finally died, and on opening the body, many hundreds of pins and needles were found scattered through all the different parts of the body.

We shall pass over the chapters devoted to the consideration of incised wounds, as they do not present any thing of peculiar interest, with the exception, perhaps, of a few pages on wounds, with complete separation of parts. These injuries, when produced by instruments which tear, bruise, or disorganize the structures to any considerable extent, are incapable of reunion; neither can this be expected, when the member is of considerable size. Here the part is too depending on the general system, to retain its vitality sufficiently long, and even were it united to it, as it could only be restored by the action of the capillaries, the extent of this vital action would be too limited, and the part which was separated must die before sufficient circulation and innervation could be established. It is, therefore, only in parts which are small and have been recently separated from the body, that union can be effected. The more speedily this is attempted after the injury, the greater chance is there of success; but it is probable that it may be accomplished at any time, so long as the heat of the part remains, and the blood continues fluid, thus manifesting the existence of the vital properties. Thus M. Dupuytren relates the case of a physician who, in extracting a tooth from a child, by mistake drew out one of the permanent teeth. Discovering this, he endeavoured to find the tooth. It had fallen on the floor, and more than an hour elapsed before it was found. By the advice of M. Dupuytren, it was again replaced; the tooth lived, and, at the end of eighteen months, was as firm and useful as the others. Similar facts have not unfrequently been observed. In this case, the vitality of the part remained, probably, much longer than usual. It is well known that parts, which are naturally at great distances from each other, may sometimes be united, as the *Talicotian* operation fully exemplifies. Accidental defects of one individual may sometimes be supplied by another. There have not been wanting individuals kind enough to supply their neighbours with integuments sufficient to repair their noses, when destroyed by accident or disease. The experiments of Hunter are familiar to most readers, and we have seen the spur of a cock which had been transplanted to his head, and had attained the length of two or three inches. M. Paillard and Marx, allude to some very interesting experiments of this kind performed by M. Baronia.

Wounds made by Incision and Puncture.—The character of these wounds may easily be inferred from that of the instruments by which they are inflicted, which having a sharp point, are well calculated for plunging profoundly into the different parts of the body, while by their cutting edge they divide the tissues to a considerable extent. From this it results that there is more hemorrhage; the nerves are more frequently divided, and from the division of the muscles, hernia is more apt to ensue, than in cases of punctured wounds. Sometimes, however, it happens, that the viscera, particularly those of the abdomen, some of which are smooth, loose, and yielding, evade the weapon which pierces this cavity. M. Dupuytren relates an interesting case: "M. N. under the influence of domestic affliction, resolved to destroy himself. To accomplish this, he placed the handle of his sword against the wall of his chamber, and precipitated himself against its point. It passed entirely through the abdomen;—M. Dupuytren was called, and found him seated on a chair; the point of the sword eight or ten inches from the back, and upon the right side of the vertebral column. The patient appeared to suffer very little; there was no sign of effusion of blood or any other fluid into the abdomen cavity, nor of any lesion of the viscera. M. Dupuytren extracted the weapon, not, however, without some difficulty, and a fear that hemorrhage, which had been prevented by the presence of the sword, might occur as soon as it was withdrawn. There was none however; and the patient, after three or four bleedings and a few days of repose, was entirely cured."

Upon this part we shall not dwell, but pass to the consideration of a state of the system, which is often found to accompany gun shot wounds; and as its consideration is of great importance, and has been somewhat neglected by authors, we shall speak of it somewhat in detail. This affection is generally the consequence of a severe attrition or contusion of some part, and is called stupor, (*stupeur.*) When this state exists, the sensibility at the seat of injury is greatly diminished; so much so, that it can frequently be amputated without the consciousness of the patient, who is indifferent to all that is taking place about him. In these cases, the heat of the body is greatly reduced, and the limbs are sometimes of icy coldness. A deadly shock has been inflicted on the system, and all the organs are struck with torpor. The heart acts feebly and irregularly, the breathing is slow, the eyes are fixed, the mouth open, and the countenance has an air of astonishment. While this state exists, the wounds do not bleed, but, on the contrary, present a pale or violet colour, and are soft and flabby. After a few days, the parts on which the patient reposes, as the great trochanter, sacrum, &c., often ulcerate. If re-action comes on, the wounds become inflamed, and furnish an exhalation from their surface, violet, sanguinolent, or fetid, and the symptoms of stupor disappear, an emphysematous swelling takes place, and extends to the trunk. The fever which ensues is extremely irregular, and is composed of alternate chills and flushes of heat: fierce delirium, vomiting, and jaundice often ensue, together with suppression of urine. Generally, when it has arrived at this state, the patient soon expires. It would appear that, in these cases, there is such an exhaustion and disturbance of nervous energy, that the parts are rendered permanently incapable of resuming their office; hence, the irregularity of the phenomena which ensue. That the vitality of the parts is in a measure destroyed, would seem, moreover, to be manifest from the changes which ensue after death. Thus the body, and in particular that part which has been injured, has been observed to putrify with great rapidity, and decomposition was far advanced when it had only commenced in the bodies of those who had died of ordinary diseases.

In every case of stupor, where the shock has not too profoundly prostrated the powers of life, we can distinguish two stages: 1st, one of depression which gradually passes into the second, or that of re-action. In the first, we should endeavour to support the powers of life as much as possible by the administration of stimulants and cordials, varying them, however, according to the particular circumstances of the case. In some instances, where the stupor is slight, we should be particularly cautious in giving stimulants, as in many, when the re-action is developed, have cause to regret their too liberal administration. The wound should be first fomented with wine, spirits, or aromatic liquors. In fact, all prudent endeavours should be made to excite the system, and relieve it from the great exhaustion and debility under which it labours; and when re-action has taken place, it is necessary carefully to watch the symptoms as they rise; and our treatment must vary with them. Should much inflammation supervene, it must be subdued by the usual antiphlogistic means; but our bleedings should rather be small, and frequently repeated. If nervous symptoms ensue, antispasmodics are indicated. It is necessary, of course, to remove the patient as much as possible from the pernicious influence of moral causes. M. Dupuytren adds, that those who have suffered from stupor, are more exposed than others to the dangers of the ataxic affections.

Wounds by Air and Steam Guns.—These are seldom employed in war—as they possess many inconveniences, and their force of projection is not so great as that of gunpowder. The air gun, however, is sometimes used as an instrument of murder, where it is desired to avoid detection. This is rendered difficult, by the absence of light and noise on the occurrence of the discharge; and for this reason they have been prohibited in certain countries. Where a wound has been maliciously and secretly inflicted by one of these instruments, it may be desirable to know, if any criteria exist by which it may be distinguished from one produced by fire arms. The wounds of the latter are often soiled and blackened by the product of the decomposition of the powder, especially the charcoal. This, moreover, if often perceived on the clothes of the wounded, and it may be accompanied by the presence of the wadding. The form and nature of the wound is the same, but there is generally less attrition in wounds from the air gun, owing to its propelling force being weak, than in those produced by gunpowder.

Wounds produced by Gunpowder.—The effect produced by balls or other hard substances when set in motion by the explosive force of gunpowder, is familiar to all. That the common wadding of a gun may produce very dangerous and even fatal effects, is however not so generally known. As the knowledge of this fact may be useful, and, as it has a practical bearing on medical jurisprudence, we shall mention two interesting cases related by M. Dupuytren: "Some years ago, a person, armed with a gun, while quarrelling with another man, fired upon him. The distance was short, and a wound was inflicted upon the abdomen;—this cavity was penetrated, and the small intestine wounded. As the patient died,—the case became the subject of judicial investigation.—M. Dupuytren was called upon to declare the cause of death. The prisoner insisted that the gun was simply charged with powder, and that his intention was only to frighten, and not to kill his adversary. His statement was true; on examination after death, no ball was found in the wound.

As much depends upon the swiftness and force of propulsion as upon the density of the moving body. Thus M. Paillard and Marx have determined, by experiment, that a ball of soft, chewed, and wet paper, is able to perforate a plank of considerable thickness: the same thing was observed of balls of wax, dough of bread, and the end of a candle;—grains of powder loose in the barrel of a gun, may be driven into the body to a considerable distance. We shall adduce one more instance of death by the wadding of a gun: "During the celebration of July, 1830, a merchant's clerk armed himself by with gun loaded merely with powder and wad. He discharged it about the distance of six feet upon a boy, with the intention merely of frightening him, without suspecting the occurrence of any accident; his error however was soon perceived; and the boy seriously wounded, was brought to the hotel dieu. There was a wound, the size of a five franc piece, upon the right flank, on a level with the crest of the ileum, five or six lines behind the anterior superior spinous process; the skin and superficial part of the muscles were taken away, as with a punch (emporte piece;) the bottom of the wound presented a black and bruised appearance. The iliac crest was uncovered to the extent of half an inch. There was some stupor, and very little hemorrhage. Under the influence of appropriate dressings and general treatment, the eschar separated, and the peritoneum was seen naked. Nevertheless every thing seemed to promise a favourable termination, when the patient having indulged too much in eating, the suppuration was suppressed, the wound inflamed, and chills and fever supervening; he died on the fifteenth day. On dissection, the peritoneum was observed to form a tumour, of the size and form of an egg, at the bottom of the wound—the illiac crest to the extent of an inch was denuded, abscesses formed around the wound, and the periosteum of the illiac fossa was detached, and elevated by pus.—The peritoneum of this region was the seat of intense inflammation—the pleura of the right side was inflamed, covered by false membranes, and its cavity filled by sero-purulent fluid.—The right lung presented on its surface, and in its substance, a number of small abscesses—some were also observed in the inferior lobe of the left lung; the other viscera were sound.

Under the head of physical effects of projectiles, M. Dupuytren gives us much that is curious and interesting. Our limits will not, however, permit us to give much upon the subject. In the effects of balls upon bone, it has not unfrequently been observed, that the bone has been perforated, or that the foreign body may have remained in its substance, without giving rise to fracture. Particularly is this the case in young subjects, where the bones are as yet somewhat soft and yielding. M. Dupuytren relates several cases of this kind, and several have been observed by M. Paillard and Marx: "Kinderman, aged twenty-five, soldier of the imperial guard, was wounded by a ball, which traversed the tibia in its superior third. After suppuration was established, several dead portions of bone were extracted—a probe could be passed entirely through the limb; there was no fracture; and the patient perfectly recovered. A case occurred to M. Larrey, in which the arm was amputated at the shoulder joint, for a wound of this part inflicted by a ball; on dissection of the limb, it was discovered that the ball had passed through the head of the humerus without producing any fracture.

The modification which balls experience in their course, when striking upon water, has often been observed. If the angle of incidence is very great, that of reflection must correspond to it, and accordingly we have a series of skipping or bounding of the ball, on the surface of the water. If the angle is not so great, it may be reflected to a considerable distance; and balls which have been fired upon the water from one bank, have struck persons on the opposite side. We here cite a case which will illustrate this position, and may teach us the necessity of caution in similar circumstances:—"Two boys were firing at fish, upon opposite sides of the river, their guns being loaded with shot. One of them perceiving a fish, fired at it—at the same moment his friend, placed on the other side of the river, was struck in the eye by a shot. A small wound was perceived on the inferior eyelid, and an opening upon the globe of the eye, near the union of the transparent cornea with the selerotic. The sight of the eye was lost—violent inflammation took place, and only terminated by the bursting of the organ, and evacuation of the humours."

Several pages are dedicated to the treatment of wounds inflicted by fire-arms, and many interesting cases are detailed. Inasmuch as the treatment does not present any thing peculiar, (with the exception, perhaps, of using incisions, to anticipate the occurrence of strangulation of the part, much oftener than is practised by most English and American surgeons,) and our limits do not permit us to make extracts from the cases, we shall refer the reader to the work itself, and pass to the consideration of amputation—the concluding subject of the first volume.

This is one of the most important topics which can engage the attention of the surgeon, and the preservation of the life of the patient, often depends not only upon his correct, but *prompt* decision. This is particularly the case upon the battle field, where, surrounded by a multitude of cases which demand his care and attention, and by the noise and tumult of battle, he has little time for deliberation, and must act quickly and energetically. Many circumstances are here to be considered, which have a most important influence over the welfare of the patient, and which seldom occur in private practice. Patients who have sustained injuries at home, and have recovered without amputation, would probably have died, had these occurred in time of war, and had they been subjected to all the fatigue, care, pain, anxiety, and want of sufficient attention, which they would often have been obliged to experience. Indeed, the circumstances accompanying the injury are often as important to be investigated, as the nature of the wound itself. With respect to some wounds, there can be no doubt, all judicious surgeons agreeing, as to the necessity of amputation. Such, for instance, are cases in which a limb is carried off by a cannon-ball, those in which a large joint has been disorganized, and where the principal vessels and nerves of a limb have been destroyed, with fracture of the bone, &c. But although some cases occur in which no doubt can exist, there are others which demand, as we have already said, all the judgment, and profound reflection, of the practitioner. Some cases of compound fracture, are of this nature. When the parts are much contused, and there are many splinters of bone scattered in the soft part, and particularly if there is a lesion of the principal artery or nerve, the indication for amputation is evident. If, on the contrary, the splinters of bone are few, and there is little injury of the soft parts, the limb can generally be preserved. In compound fractures, occurring in battle, most surgeons are in favor of amputation. Still, notwithstanding this general precept, there are exceptions. Cases of cure are recorded, where the injury has been exceedingly great, the patients refusing to submit to amputation. Cases of this kind are recorded by almost every writer on surgery. These, however, do not affect the general rule. "Some cases are so difficult of decision," says M. Dupuytren, "that it would be necessary for God to send angels upon the earth, to practise surgery, and decide rightly these doubtful cases." The division of the principal nerve of a limb, never can, of itself, demand amputation, except when tetanus ensues, and will not yield to ordinary means. "Amputation then presents a resource sometimes useful, but most generally of little avail." "Where there is lesion of both the main artery and nerve of a limb, amputation is not absolutely called for; however, it cannot be denied that the chances of cure are small, inasmuch as the limb is deprived of its elements of nutrition, for a time at least, and of its sensibility and movements forever. If the soft parts are much injured, and especially if there be fracture of the bone, amputation becomes indispensable." The remaining observations of M. Dupuytren on this subject, are very interesting, but we must leave them, and pass to a subject equally difficult, viz.—the time at which amputations should be performed. Formerly there was much difference of opinion on this subject, some surgeons contending for immediate amputation, others for postponing it until the symptoms of inflammation, &c., had disappeared. Among the advocates of this latter opinion, was M. Faure, to whom the prize dissertation on the subject was adjudged; but the experience of almost all modern surgeons is in favor of immediate amputation in cases of gunshot wounds. By immediate, however, it is not meant that the operation should be performed instantaneously, or before the first symptoms of depression, or prostration, shall have subsided. The shock of amputation, added to that which the system has already sustained, cannot fail to be injurious, and often fatal. We should endeavor to select a period intermediate to that of depression and reaction, so that we may not run the risk of extinguishing the vital spark, or, by delaying too long, induce the inflammatory state of the system, by the excitement of the operation. When the warmth has returned to the surface, the pulse has regained some force, the intellectual faculties are in operation, and the courage of the patient has returned, we may then operate. By so doing we save the patient from the long and tedious suffering, and risk of life, to which he would have been subjected, should we have previously determined to run the risk of secondary amputation. According to M. Dupuytren, and most surgeons, this period generally extends from one to six or eight hours, depending, of course, upon the constitution of the individual, and the nature of the injury. With regard to the mode of amputation, and the dressing to be employed, M. Dupuytren adopts the usual plan, and prefers union by first intention. We have endeavoured, thus far, to give the reader a general idea of the nature of the work, and if it should appear that some parts have not been sufficiently dwelt upon, it was because they presented nothing new, or with which the profession have not long been familiar. We have sought to select such parts, as it was hoped, might prove interesting. In the next volume, wounds of the different regions will be considered.

C. E. I.

COLLECTANEA.

Apis vero ratio media est; quæ materiam ex floribus agri et horti elicit, sed tamen eam propria facultate vertit et digerit.—Nov. Org.

1. *Decussation of the Posterior or Sensitive Chords of the Medulla Oblongata.* By Sir Charles Bell. We have noticed a fact of more than ordinary importance, as reconciling the occurrence of symptoms with our knowledge of anatomy. Where the posterior tract, descending from the cerebrum, has reached the point of the medulla oblongata, just opposite to the decussation of the corpora pyramidalia on the fore part, we described a coalescence. We have already stated, that when we proceed to separate the columns on the side of the slit called calamus scriptorius, we see small, neat, and regular filaments, as it were, interlacing and joining the two columns. But when we examine further, we perceive that these filaments belong to a plate of fibrous texture which passes in the central plane from before backwards. This striated septum stops or is interrupted by the union of the columns of sensation; and now attending to the fibres of these two columns, we find them to decussate with an interweaving as distinct as that of the corpora pyramidalia or anterior columns. After this union and decussation has taken place, we may trace the nervous matter downwards in the two lateral portions of the spinal marrow, covered by the columns, which are the most posterior of all, and which descend from the cerebellum under the name of corpora restiforma.

Make a transverse section of the crus cerebri, half an inch anterior to the pons. Looking on the cut surface of the lower portion, a discoloured line, of a semi-circular figure, will be seen: anterior to this line is the motor column; posterior to it, the sensitive. Put the ivory handle of the knife into this discoloured part; it will prove softer than the part anterior and posterior to it. Thrust back the posterior column until it is seen descending behind the posterior transverse septum of the pons (the anterior column passing before.) You have now a very large portion of nervous matter, which you trace towards the medulla oblongata, and between the processes of the cerebellum. Now observe the two convexities, which are distinct columns, and which pass under the valvula cerebri, and the corpora quadrigemina, and by their approximation form the central slit of the calamus scriptorious. These columns are nearly as large, and as distinct, as the pen I hold.

It is not every person who has the delicacy of hand to display the septum which is between the columns; but even with a coarse hand, let him put in the probe between the columns, he finds it easy to separate them down to the delicate ligaments which form the point of the calamus. This point is firm; it is covered with a triangular-shaped layer, of a gray colour. Here he will find that there is a very firm union, not only of the two sides, but of this superficial layer, to the parts beneath.

This is so plain a matter, that a blind man may find it. I mean not this tauntingly; but if the dissector were blindfolded, or looking another way, on putting the probe, or curette (for that is the instrument I use,) either between the columns above or below, and moving it towards the decussation, he would feel the resistance, so firm is the texture where the decussation takes place.

So far there can be no mistake. Let the dissector push aside the processes called posterior pyramids, and the inferior pedunculi of the cerebellum; and thus opening the spinal marrow, prosecute the cerebral columns, which he had previously traced from the crus cerebri.

Dissecting up the coloured matter, (which is itself a firm bond,) he finds just under this that the columns coalesce, and form a sort of neck. The narrowness here is owing to the closer union of the fasciculi where they decussate. After this union they separate, and proceed down the spinal marrow; and it is easy to trace their filaments into the posterior roots of the spinal nerves.

When this view is made, the course and decussation of these columns is much more distinct than that of the anterior, or motor column, and the union and separation of a different form, and more easily demonstrated, than the decussation of the anterior columns. These columns are larger than the anterial pyramids; they cannot be the product of a part of the anterior, or true pyramidal bodies; they are seen descending continuously in their whole length, from the back of the pons to the spinal nerves; and a most interesting portion of the medulla oblongata is interposed at this part between the columns of motion and sensation.

There is another very satisfactory mode of displaying the course of the posterior cerebral columns, which is, by opening the sheath in which they run, and taking away the longitudinal fibres altogether, leaving the septum between them. At the point where, in my paper, I have described the septum as terminating, its texture rather opens, and forms oblique passages, through which divisions of the columns pass from side to side.

In the sheath, as seen on lifting the mass of the posterior column, a passage is left for a process to join this posterior column, and if this be followed through, it will be traced from the superior and central portion of the anterior pyramidal body. The connections between the anterior, posterior, and intermediate columns of nervous matter, as I have observed in my paper, are subjects of great interest. It is this part of the anatomy which will form the subject of my next paper to the Royal Society.—*London Med. Gaz. Feb.* 1835.

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2. *On the changes produced in the composition of the Blood by repeated bleedings.* By Thomas Andrews, Esq.—The object of the following experiments is to determine with precision, the changes which are produced in the composition of the blood, by repeated abstractions of large quantities of it from the general circulation. In the human subject, opportunities seldom occur of procuring proper specimens for examination, although the operation of venesection is so frequently performed; as in those cases where it requires to be repeated at short intervals, the blood is generally in a morbid state. Instead of waiting for such casual occasions, I directed my attention to those animals in which the composition of the blood is nearly the same as in man, conceiving that similar results would in either case be produced. I selected the blood of calves for the purpose of experiment; and as it is the practice of butchers in this country to bleed these animals several times before they are slaughtered, I availed myself of this circumstance to procure suitable portions

of blood. The animal is bled from a large orifice in the jugular vein, till symptoms of syncope appear, and the operation is in general repeated at intervals of twenty-four hours. It is once fed between each operation upon a mixture of meal and water, but this is often omitted before the last bleeding.

The appearance of the blood becomes greatly altered by the successive abstraction; the crassamentum is at first very large, and a portion of the red globules are unattached to it, but it progressively diminishes in bulk, while its consistency increases, till upon the fourth bleeding, it appears a small contracted ball immersed in a large quantity of serum, adhering to the stopper of the vessel in which it is contained, and presenting on its external surface an exact cast of the interior of the vessel.

The following analyses were performed by the same method that I formerly employed in a set of experiments on the blood of the cholera patients, which were published in the Philosophical Magazine for September, 1832. They are nearly all a mean of two separate analyses, which seldom differed from each other more than 0.5 per cent.

A calf was bled four times; between the first and second bleedings a week elapsed, but the rest took place at intervals of twenty-four hours, and the animal was fed between each operation. The composition of the serum and blood at each bleeding is exhibited in the following tables:

SERUM.

	FIRST.	SECOND.	THIRD.	FOURTH.
Water	92·19	93·96	93·81	94·18
Albumen and Salts	7·82	6·04	6·19	5·82
	100·00	100·00	100.00	100·00

BLOOD.

	FIRST.	SECOND.	THIRD.	FOURTH.
Water	81·36	85·49	87·41	89·25
Albumen and Salts	6·89	5·50	5·77	5·52
Red Globules and Fibrin	11·75	9·01	6·82	5·23
	100·00	100·00	100·00	100·00

The serum had at the third bleeding a specific gravity of 1.020, and at the fourth, of 1.017. At the third bleeding, the specific gravity of the blood itself was 1.031.

The next calf whose blood was examined was nine weeks old. I did not procure any blood from the first bleeding. The third bleeding was twenty-four hours after the second, and during that period the animal was once fed; twelve hours afterwards it was bled a fourth time, but it received no more food:

SERUM.

	SECOND.	THIRD.	FOURTH.
Water	93·32	94·39	94·59
Albumen and Salts	6·68	5·61	5·41
	100·00	100 00	100·00

BLOOD.

	SECOND.	THIRD.	FOURTH.
Water	82·05	89·14	88·92
Albumen and Salts	5·85	5·29	5·06
Red Globules and Fibrin	12·10	5·57	6·04
	100·00	100·00	100·00

The albumen and salts, it is evident, decrease at each bleeding; the diminution is, however, very variable, and even after the fourth time does not amount to one per cent. and a half. In the globules, the same diminution takes place, but to such a degree that they are at least reduced to less than one-half their original quantity. To this principle a remarkable exception occurs in the composition of the blood taken at the last bleeding of the second calf, where the globules are slightly increased above the preceding analysis; but it will be observed that the animal received no food during the intervening period, from which the blood might obtain a fresh supply of serum, while the tendency of the different excretions of the animal was to drain from the circulating mass its aqueous part, and thus to increase the apparent quantity of the globules. This explanation is confirmed by the following analysis.

A calf, three weeks old, was bled twice before it was killed; twelve hours elapsed between the two bleedings, during which time it obtained no food:—

SERUM.

	FIRST.	SECOND.
Water	92·48	93·35
Albumen and Salts	7·52	6·65
	100·00	100·00

BLOOD.

	FIRST.	SECOND.
Water	82·48	83·47
Albumen and Salts	6·70	5·95
Globules	10·82	10·58
	100·00	100·00

The globules have here, it is true, diminished at the second bleeding, but so slightly, that we may attribute this circumstance to the unassimilated chyle which must have been present in the system. In the former case, the animal had been exhausted by previous depletions, and hence possessed no store from which the blood could derive even a small portion of serum, as in the latter instance.*—*London Medical Gazette, for Feb.*, 1835.

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* Records of General Science.

3. *Poisoning with Strychnine.* By Dr. Richter.—Two blisters were applied to an individual affected with hemiplegia, and the abraded surface dressed with one-eighth of a grain of the nitrate of strychnine. The dose was gradually augmented to a grain and a half, when alarming effects, resulting from the poisonous agency of the remedy, were produced. The raw surface was carefully cleansed of all the particles of the strychnine that had not been absorbed, and two grains of powdered acetate of morphia were applied. All the urgent symptoms of intoxication immediately subsided, and no additional treatment was found necessary.—*Medicinische Zeitung, Sept.* 1834—*and Journ. des Connaissances Med. Chirurg., Mars,* 1835.

4. *Travels in Switzerland and Italy.* By M. Roux.—At the request of the members of the Academie de Medécine, this distinguished surgeon related to them at several of their sittings, the principal points for observation in the localities through which he passed in his tour in the above named countries, with, of course, a special reference to the medical affairs.

Commencing with Switzerland, M. Roux went a great length into the practice of M. Mayor of Lausanne, particularly as to his mode of surgical bandages. M. Mayor denies the spontaneous luxation of the femur, and attributes the shortening of the limb to an irregularity of the pelvis and the vertebral column—an opinion from which M. Roux differs, though he thinks that further researches should be made on the subject.

At Geneva, a second M. Mayor made some important communications to the traveller. The first was regarding the *hydrocele of the neck of* M. Maunoir, which is a cyst of the thyroid gland; it is endemic in Switzerland, but is never observed in France. It commences in one side of the gland and gradually extends to the other. When the tumour bursts or is punctured, a thick coffee-coloured fluid escapes; this is succeeded by a sanguineous effusion into the cyst, or else it is poured out: the effusion is an exudation, and not the consequence of any ruptured vessel. When the cyst is filled, the bleeding stops, in consequence of the compression of the parietes. M. Mayor, therefore, adopts the following treatment. Having emptied the cyst by means of the trocar, he stops it with agaric in order to prevent the oozing around the canula, which he also stops hermetically. The secreted blood coagulates, subsequently becomes fluid, and is then allowed issue by opening the canula. The parietes of the cyst afterwards suppurate and finally adhere together; the cure is somewhat prolonged, but is certain.

M. Mayor has also paid particular attention to *invaginated necrosis,* which is more frequent in Geneva than in Paris. It is generally considered best to wait as long as possible before the operation for removal of the sequestra, which is more loose and thin as the affection is of longer standing. M. Mayor on the contrary, thinks that the separation is complete from the commencement of the disease, and previous to the complete solidification of the new bone; he therefore is of opinion that the operation should be performed at an early date, because the instrument acts with greater facility on the non-solidified bony envelope.

Proceeding to Italy, M. Roux, examines in succession the institutions, the noted men, and the circumstances of the country. In the first are comprehended the academies, universities, and hospitals. M. R., it is necessary to remark, only visited the north of Italy, Milan, Padua, Florence, Brescia, Venice, but did not reach Rome and Naples.

With regard to the academies, M. Roux states that he was not able to visit them, and that he needed no consolation on that account.

In France there is but one university: in Italy there is one, and sometimes several, in each small state. Thus, there are seven in the Roman states; and the confusion in this particular is so great, that the doctors of the university of Sienna, for example, cannot obtain the license to practise until they have studied two years at Florence, where there is no university, but where the means of instruction are much more perfect.

Each of the universities include four faculties: that of medicine comprehends pharmacy. The principal ones are those of Pavia, made illustrious by Scarpa; of Padua, where Fabricius ab Aquapendente and Morgagni flourished; of Bologna, which is much fallen off since the late political troubles, the consequence of which was its dismemberment. It may be easily imagined that each of these universities is far below that of Paris in the number of students. The largest number in any of them scarcely reaches four or five hundred students, whereas that of Paris includes more than three thousand, that is, more than all the Italian students together. The mode of teaching is pretty nearly the same as in France, with a few slight modifications. Eye-surgery, as a separate department, has been recently introduced from Germany, and the inspection of this special teaching, only tended to confirm M. Roux in the prejudices he had long entertained against these mincings of science. It is worthy of remark, that each professor is obliged, in his lectures, to follow the plan and order laid down in the work which he uses as a text-book, a species of intellectual slavery much reprobated by the author, but in which he found a cause for exultation, since these works are, for the most part French productions. These faculties admit three orders of practitioners; doctors of medicine, masters of surgery, and *petty* surgeons, the latter corresponding to the French *officiers de santé.*

Most of the universities are provided with magnificent collections, among which those of Bologna and Florence are particularly fine. That of Pavia is remarkable for the anatomical preparations; that of Florence for wax mouldings. Each hospital has a dissecting theatre. The students are not allowed to dissect in the first year of study, but are confined to looking at the older students. At Florence, there is also a superb collection of works referring to the physical sciences; in it the instruments used by Galileo, Galilei, and Toricelli, are preserved: they are about to deposite them in a particular cabinet. Indeed, the Italians profess a religious veneration for their great men, and erect monuments and statues to them. This enthusiasm, however, is sometimes outrageous; nor was it without a painful sensation that M. Roux beheld the head of Scarpa macerating in alcohol, among other anatomical preparations. Apropos of this subject, he relates a peculiarity found on the post mortem examination of the illustrious Italian surgeon, who previous to his death, at eighty-four years, had lost the memory of proper names; on examining the contents of the cranium, a considerable disorganization of one of the corpora striata was found.

The organization of the hospitals in Italy presents some remarkable peculiarities. They are almost all erected in advantageous positions, and have large well ventilated wards: those for surgical diseases are separate, and are generally less carefully attended to. The great hospital of Milan, probably has not an equal in Europe in regard to the architecture and extent: it contains with ease 1,800 patients. These hospitals, moreover, include separate chambers for such as can afford to pay for them.

The medical hierarchy is in full vigour in the Italian hospitals: there are honorary physicians, assistants, sub-assistants, first physicians, directors of the establishment, &c. In difficult cases the physicians meet in consultation under the presidency of the chief. It may be remarked that in this classical country of devotion, the hospitals are not deprived of the services of the *religieuses.* The union of powers in the director, who is generally a distinguished physician, whom age has rendered incapable of practice, simplifies exceedingly, and facilitates the arrangements of the hospitals.

Though Italy is far from being devoid of distinguished medical men, there are none of them whose reputation can be balanced against that of such men as Scarpa, Vacca Bellinghieri, Palletta, and others. Of those possessing the greatest name at present is professor Panaizz of Pavia, who in anatomy at least, is proceeding in the brilliant pathway of Scarpa.

M. Roux paid particular attention to the state of normal and morbid anatomy, midwifery, and surgery, towards which his tastes inclined him. Anatomy is cultivated in Italy with the greatest ardour; the country abounds with museums, with which those of France can stand no comparison. The museum of Pavia is especially remarkable, enriched as it is with the numerous undertakings of the great Scarpa. A vast number of beautiful preparations of the structure of the bones are particularly prominent. It also contains the lower limb of the individual on whom Scarpa first put in practice his mode of operating for aneurism, which, as is known, is by ligature in the inguinal space; the patient survived the operation twenty-five years. The successor of Scarpa, Panizza, has repeated Mascagni's experiments on the lymphatic system. His discoveries on this head have been more particularly interesting with regard to the lymphatics of the generative organs. Nor are his researches into the nervous system less important, one of the preparations shewing with the greatest exactness the connection of the nerves of the great sympathetic with the anterior branches of the spinal nerves. But a still more important result of his injections is the proof, that the serous membranes are eminently vascular—a fact denied by many physiologists and anatomists, who look upon those membranes as inorganic, as a kind of epidermis placed over the vascular tissues beneath.

At Bologna, M. Roux was struck with the preparation of a head of immense proportions that had belonged to a body of ordinary size: the individual had exhibited nothing unnatural in his intellectual faculties.

At Florence, in the cabinet arranged by M. Zanetti, M. Roux saw the following preparations. 1. A skull perforated by a dagger, which caused the inner table to project an inch into the cerebral cavity, without however inducing any particular cerebral lesion; the person survived a long time with the steel fixed in the bone. 2. Two pieces, which shewed to demonstration the indentation of the cranium, without fracture. 3. The womb and pelvis of a woman who survived one Cæsarean operation, but died after the second. 4. The head of a hydrocephalic child, containing thirty-two pounds of water. 5. A radius, the diaphysis of which is covered with a bloody funguous tumour which had been mistaken in life, for an aneurism.

In all the Italian faculties there are obstetric clinical courses. At Milan, M. Roux, saw two placentas continuous with each other: it had occurred in a twin case, and is a fact, the existence of which has been frequently denied; it justifies the practice advised by M. Capuron of tying the cord of the first born child. The director of the maternity of Milan, M. Milly, told M. Roux that out of several Cæsarean operations he had been twice successful. There is in the same place a very fine collection of ill-shaped pelvises. M. Milly observed, that when the deformity of a pelvis consists in an obliquity of one side coinciding with a narrowing of the same side, there is always a complete ossification of the corresponding sacro-iliac symphysis; so that symphyseotomy would prove useless in such a case.

With regard to surgery, the Italians care little for French or other doctrines; those of Scarpa are exclusively predominant. Lithotrity is scarcely known; M. Roux only met one surgeon that had performed it twice. But what is most astonishing is, that the operation for cataract by extraction is totally unknown in Italy. At Florence M. Andrini shewed M. R. an individual in whom he had cured an aneurism of the crural artery by Valsalva's method, the general debility not allowing of his operating. At Venice he saw a man who had fallen from a high scaffolding with the back of his neck against a stone two square inches thick, which divided the skin and muscles and forced on to the vertebræ, without fracturing the bones and causing mischief of the brain or cord; the man was perfectly recovered. M. R. also saw a leg that had separated by sphacelus, after compound fracture; likewise, at Milan, a varicose aneurism of the bend of the arm, cured by tying the brachial artery above it. M. Roux succeeded in reducing a complete dislocation of the fore arm, that had continued for five months. It had every appearance of being anchylosed, but, having been successful in similar cases before he attempted and effected the reduction; the arm was restored to its functions.—*London Medical and Surgical Journal, Feb.* 1835.

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5. M. Bouniceau asserts, that migraine, (a *species* of *neuralgia*) is seated in the nerves distributed to the integuments of the cranium, and that it can be promptly relieved by compressing the course of the frontal nerve, over the superciliary arch, with the thumb; or when the pain is severe in the occipital region, by making pressure behind, between the atlas and dentatus.

[*Journ. des Connais. Med. Chir. Mars,* 1835.

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6. M. Castel asserts, that the reason why the right side of the heart retains its irritability longer than the left is, because it receives a greater number of nerves; and M. H. Cloquet confirms this statement by the declaration, that he had seen in the anatomical museum of Berlin, a heart, the right side of which was supplied with two or three times the number of nerves which were distributed to the left.—*Ib. Février*, 1835.

MEDICAL EDUCATION.

Present System of Medical Education, and the arrangement of the Medical Profession, in the Austrian States.

The laws by which the profession in Austria is governed, were enacted in the reigns of Maria Theresa, of Joseph II., and of the Emperor Francis I. The object is the improvement of medical education in the schools, the supplying of suitable practitioners for the people, and the regulation of the *pharmaciens,* who alone are permitted to deal in drugs and medicines. They further contain clauses of great severity for the checking of charlatanism; and in order that the magistrates may be fully acquainted with every thing relating to hygiène and medical police, appointments are provided in the several districts for a body of well instructed and experienced medical persons, specially entrusted with this duty.

I. SYSTEM OF EDUCATION.

There is no distinction made, in the Austrian universities, between the education of physicians and that of surgeons. The students destined for either pursuit must attend the courses of both branches of the healing art, and not until they have completed their curriculum are they allowed to choose which they shall practise: but they may practise both if they choose, and be found properly qualified.

The qualification for a doctor of medicine or surgery, consists in a five years' attendance of lectures in some national university; the three first years being devoted to the study of the collateral sciences and the theoretical parts of medicine, and the last two being employed in special therapeutics and practice, at the bed-side of the patient. The following is the order in which the several branches are studied:—

First Year.....	1st Semestre.	A general introductory course of medicine and surgery. A course of anatomy. A course of special natural history.
	2d Semestre.	The courses of anatomy and natural history repeated. A course of botany.
Second Year.	1st Semestre.	Anatomy and physiology of a more advanced character. General chemistry.
	2d Semestre.	Anatomy and physiology continued. Pharmacy and animal chemistry.
Third Year....	1st Semestre.	1. General pathology, (etiology, semeiology, and general therapeutics.) 2. Materia medica and chirurgica, dietetics, and art of prescribing. 3. Theoretical surgery (general and special pathology of surgical disorders.) Midwifery.
	2d Semestre.	Courses 1, 2, 3, preceding, continued. Bandages and surgical instruments, from June till the end of the medical year.
Fourth Year.	1st Semestre.	1. Special therapeutics of internal maladies. 2. Internal clinique.
	2d Semestre.	1 and 2 preceding continued. Veterinary medicine.
Fifth Year.....	1st Semestre.	1 and 2 of preceding year continued. Forensic medicine.
	2d Semestre.	1 and 2 continued. Medical police.

It is to be observed, with reference to clinical instruction, that, both in Austria and Prussia, students who have completed their theoretical courses are divided into practising pupils and assistants; the former being entrusted with the treatment of a certain number of patients, whom they visit under the inspection of the clinical professor. If they acquit themselves well, he does not interfere; if not, he instructs them in the questions which they ought to put. After each visit, the professor interrogates the pupil as to the class, order, and species of the malady, the prognosis, and the indications. If the pupil be right, he is requested to prescribe aloud. An assistant is attached to each practising pupil, who goes round with him, and in the course of six months becomes a practitioner himself.

The lectures on physiology, pathology, materia medica, and special therapeutics, as well as the clinical remarks at the patient's bed-side, are delivered in Latin: in all the other courses, the German is the language employed. In Hungary, Poland, and Italy, the language of each country respectively is used.

Previous to admission to the medical schools, the pupil must produce a certificate of having attended a three years' course of humanity in some national school; and pupils are arranged, in general, in three classes; the first consisting of those who have answered best, and obtained the title of *eminent*, the others according to their respective merits. Diligence and moral conduct are high recommendations in the certificate for admission: in fact, the law expressly declares that this must be seriously attended to, in order to exclude, as much as possible, from the study of an art so important and difficult as that of medicine, all those who are not more or less distinguished by their attainments and good conduct.

Matriculation is not attended with any expense.

Students are forbidden to smoke cigars, or to frequent drinking-houses.

No student can advance to a higher class without having attended that immediately preceding it; and he must pass an examination. If his answering be but second-rate, he must go through his last courses again; and if upon another trial he be found deficient, his name is erased from the list of medical students, and he is precluded from entering any other national university.

Every professor is bound to examine his class once a week publicly, for at least half an hour. The results he must note down, for the better arrangement of the classes. At the end of every semestre, the pupils are examined in their previous courses: the first examination takes place in the latter part of March, the second towards the end of August; the particular day and hour being announced a month previously. The director and a commissioner of instruction are obliged to attend at these trials; and the professors are enjoined by the law to be as strict as possible, and not to allow themselves to be carried away by an ill-judged indulgence. It is during the first year they are expected to be most severe, in order to get a timely riddance of those students who are dull and negligent, and to secure the state against the danger of having ignorant physicians or surgeons admitted to practice. In the certificates given on these occasions, not only the abilities of the pupil are set forth, but his moral conduct is noted.

The fees paid by each student amount to 30 florins (about 3*l.*) a year—3 florins a month. These charges go chiefly to the support of a certain number of poor but respectable students, who belong to large families of straightened means, and are distinguished for their diligence and good behaviour.

In order to be admitted to the final examinations, the pupil must shew that he has acquitted himself well at the weekly ones, as well as at those at the end of each semestre. The Dean of the Faculty is obliged to pay special attention to this rule, or otherwise forfeit 20 florins to the general fund. Two students cannot be examined at the same time. The judgments of reception are *Satis bene*, or *Valde bene*. If two professors vote for the candidate's rejection, he must be examined over again at some future time, going through certain courses prescribed to him in the interval. If he decline this, he is not entitled to have his examination fees refunded to him; but if he submit to a second trial, he has nothing additional to pay. Not so, however, if he be rejected a second time: he must pay his fees afresh for a third examination. Nobody can be examined more than three times: a third rejection disqualifies the candidate from ever practising in Austria.

Previous to the admission of the candidate to examination, he must produce an account of two medical cases treated by himself, and also a report in legal medicine. These papers must be forwarded to the Dean, who communicates them to the examiners, and upon their approval the candidate is admitted to the final *rigorous* examinations.

The rigorous ordeals for the diploma are two in number. The first is an examination in anatomy, botany, natural history, physiology, general and special pathology of external and internal diseases, semeiology, and general therapeutics. The examiners are the Dean, the President of the Faculty, and the professors of anatomy, botany, natural history, physiology, and pathology. For the second, the subjects are, chemistry, forensic medicine, ophthalmology, materia medica, art of prescribing, and clinical practice; and the examiners are the professors of chemistry, forensic medicine, ophthalmology, and materia medica, together with a physician unattached to the faculty. In Vienna, the latter person is the vice-director; and in the provinces, some practising physician, not a professor.

The candidate may answer, as he pleases, either in Latin or in the vernacular.

Having passed these examinations, he is obliged to write a dissertation on a medical subject. He must also add some theses, which he has to defend publicly against three disputants—doctors of medicine or surgery. The Dean, and the President of the Faculty, as well as four professors, must attend the reading of the dissertation, and copies of it are to be distributed to all who may be present: the said dissertation and theses being written and defended in German, if the Dean grant leave; but this is not very usual, nor without some reasonable pretext.

The expenses of these final *rigorous* examinations are—for the first, thirty-five florins, five florins being paid to each examiner; for the second, sixty-three florins, nine florins to each examiner. The fee to the censorship, exercised by each of the professors in turn, is four florins fifty kreutzers; for the admission, &c. sixty-nine florins; to the president of the dissertation, twenty-seven florins: in all, 199 florins, (nearly 20*l.*)

If the candidate seek the diploma of doctor of surgery,—1st, He must be examined in anatomy, chemistry, materia medica, the art of prescribing, forensic medicine, ophthalmology, and the theory and practice of surgery; 2d, He must perform two operations on the dead body publicly, and in presence of all the professional men and pupils who choose to be present. Previously to operating, he must give a history of the process which he is about to adopt, describe it, point out the different modes in which it may be performed, distinguish the several advantages and disadvantages of each mode, note the indication and contra-indication, shew how the instruments and bandages are to be employed, &c.: in short, he must act with all the care and attention he would use with the living.

The expenses of these examinations for the surgical diploma are—for the first, seventy-two florins—of which the seven senior examiners receive nine florins each, the junior half that sum; for the second examination, the candidate pays fifty-four florins, nine florins to each examiner. The admission is sixty-nine florins thirty kr.; and the sum total, 195 florins 30 kr. (about 19*l*. 10*s*.)

If a doctor of surgery wish to obtain the degree of doctor of medicine, he must be examined—1st, in botany, physiology, natural history, general and special pathology, therapeutics, and semeiology of internal diseases; 2d, in practical matters relating to internal medicine. For both these examinations, the dissertation, and the admission fees, &c., the expenses are 114 florins, 30 kr. (about 11*l*. 10*s*.)

If a doctor of medicine wish to be admitted to surgery, he must be examined—1st, in the theory and practice of surgery; 2d, in the public test required of every candidate for the surgical diploma. The expenses are 110 florins (about 11*l*.)

Non-catholic candidates are admitted to degrees by dispensation only; but then there is no oath administered at variance with the religious tenets or observances with the parties.—*London Med. Gazette.*

Editorial Notices and Acknowledgments.

Introductory Address delivered at the opening of the Medical College of the State of South Carolina. November 10th, 1834. By James Moultrie, junr., M. D. Published at the request of the class. (*From Professor Frost.*)

We have been much gratified by the perusal of this excellent and appropriate lecture; and our pleasure has been heightened, by the information we derive from a printed catalogue of the students who attended the last course of the college, from which we learn, that the class has increased since last year, from 104 to 127; exclusive of eight students from the Charleston college, who attended the lectures on chemistry.

Application of the Physiological Doctrine to Surgery. By L. J. Begin, M. D., Ex-Surgeon aid-major to the military hospital of Instruction of Metz; Editor of the Chirurgical part of the memoirs of military medicine, Surgery and Pharmacy, &c. &c. Translated from the French. By Wm. Sims Reynolds, M. D. Charleston, E. J. Van Brunt, 1835. (*From the Translator.*) We shall notice this in our next.

Errata.—In Dr. Lebby's paper ,page 310, vol. 1, seventh line from the conclusion, insert "externus" after "hydrocephalus." In the same paper, page 309, "Dr. Thos. Logan," should be Dr. Thomas Legare.

NORTH AMERICAN ARCHIVES

OF

MEDICAL AND SURGICAL

SCIENCE.

Vol. II.] JUNE, 1835. No. 3.

ARTICLE I.

Pathology and Treatment of Irritation—Local, Sympathetic and Constitutional. By N. R. Smith, M.D. Professor of Surgery in the University of Maryland.

(Concluded from page 104.)

54. Foreign bodies lodged in sensitive parts are a fruitful source of constitutional irritation, as well as of inflammation and symptomatic fever. Foreign substances lodged in the nasal cavities, or in the auditory passages, especially in children, sometimes give rise to convulsions. It is well known to surgeons, that, in alarming epistaxis, when it becomes necessary to plug both the posterior and anterior nares, and the nostrils thus become stuffed with coagula, so severe does the irritation become from their presence, and the distension which they create, that convulsions often result, and it becomes necessary to withdraw the plugs. A catheter introduced into the bladder, and left in the urethra for the continued evacuation of the bladder, often creates disturbance which compels us to withdraw it.

55. Mental emotions, when intense, do sometimes, as has already been remarked, so electrify the nervous system as to fatally break up the correlative action of important organs. They produce sudden depression of the powers of life, and cause a fatal result without inducing any pathological state which can be denominated fever. Instances in which terror, in persons of but little physical or moral firmness, as children and females, has

caused protracted convulsions and death, frequently fall under the observation of physicians. More generally, however, where we witness the injurious effects of moral causes, it is the more insidious influence of despondency which is the source of evil. This merely acts to aggravate the effect of some other source of constitutional disturbance. A foreboding of evil in the mind of the patient, in the contemplation even of trivial surgical operations, always causes anxious solicitude with the prudent surgeon, since death has often been observed to result under such circumstances. The same cause will of course influence recovery from accidental injuries.

56. In the summer of 1829, a patient from the country entered the Baltimore Infirmary, for the cure of a stricture of the urethra, accompanied with fistula. The stricture existed near the middle of the spongy portion of the urethra, and was accompanied with but little irritation of the bladder, and no constitutional disorder. He came to the house, however, with the most melancholy apprehensions, and, notwithstanding the most encouraging statements which were made to him of his case, persisted in expressing his conviction that he should never leave the house alive. I performed an operation, which consisted merely in dividing the stricture with a stroke of the knife, and introduced a gum-elastic catheter into the bladder, and suffered it to remain. Several days elapsed before any thing unpleasant resulted, though the same foreboding continued. At length, without any considerable irritation of the urethra or bladder—without any premonition of any kind indeed, there took place a sudden sinking of the powers of life, and in a few hours, in spite of every endeavour to save him, he died, still uttering the conviction that this was his inevitable destiny.

TREATMENT OF PRIMARY CONSTITUTIONAL IRRITATION.

57. *Treatment of Constitutional Irritation from Local Injuries.*—It will be borne in mind, that the symptoms which characterize constitutional irritation from local injuries, are those which indicate a subdued and disturbed state of the vital forces, and that re-action is the first evidence of any recuperative effort on the part of nature, and the first step toward recovery. To rouse the subdued powers of life then, and to bring them under the influence of more salutary stimuli, would appear to be the first general indication to be had in view. Assuming the patient's condition to be that which has already been described, arising from injury

received by a fall from a height, or in a mode equivalent, his breathless, pulseless and pallid condition demands repose in the horizontal posture, warmth, and the employment of gentle stimulants. If the surgeon be at hand at the moment of the injury, his first object should be to prevent all officious interference on the part of by-standers, whose well-meant endeavours are so usually misdirected. If he be not exposed to a cold or damp air, nor lying upon a wet or rugged surface, let him, for a few minutes, rest where he is, in the supine posture, which is easiest for respiration; and with his head low, to favour the restoration of the cerebral circulation, the suspension of which prolongs the state of syncope. If his immediate removal be necessary, he should be placed on a hand-barrow, or a plank covered with a folded blanket, still in the horizontal posture, and conveyed in a manner to embarrass his respiratory efforts as little as possible, to the nearest dwelling. He should be placed in an apartment where the circulation of air is free—warmth, by heated bricks or bottles of water, is to be immediately applied to his feet—and, by warm cloths, to his stomach and region of the heart. Gentle frictions with warm dry cloths, are to be exercised, and if re-action is still reluctant, let the lips and nostrils be touched with ammonia—with Cologne water, or with warm spirits. A dash of cold water upon the face will produce a deep inspiration, and thus give an impulse to the circulation.

58. To exhibit any remedy by the mouth, while extreme prostration still exists, will only produce ineffectual efforts to swallow, and still more embarrassed respiration; but when respiration and partial consciousness are established, nothing is so grateful to the patient—nothing so refreshing, as a draught of cold water. For this, indeed, as soon as the patient is conscious of his wants, there is the most eager desire, which instinct should always be gratified. But if we have reason to believe that no serious lesion has been inflicted upon important organs, especially the brain, and if re-action is still tardy, it is proper that warm wine and water, toddy, or a few drops of aqua ammoniæ should be administered.

59. One of the most common and pernicious of popular errors, (in this community at least) in regard to the treatment of cases such as I have described, is the conviction of the necessity of blood-letting. So impressed are the by-standers, with this belief, that the attempt to obtain blood is often made by some intermeddler, before the case is seen by the surgeon; and if not, the latter is always importuned to use the lancet. The impropriety of

resorting to it under such circumstances, is now, I believe, among surgeons, universally acknowledged. Fortunately, when the attempt is made, it ordinarily fails, in consequence of the languor of the circulation; but, could blood be copiously taken, it would only have the effect, either to defer, or perhaps altogether discourage the recuperative efforts of nature.

60. When, however, re-action has become established, and especially when it has been excessive, blood should always be taken in cases in which the shock has been considerable, or where organic injury has been inflicted upon any important part. Even although re-action may have been at length established, and some degree of inflammation and fever induced, the agitation of the nervous system and the morbid exercise of sympathy, by no means necessarily ceases. Vicissitudes of action and unequal excitement are liable still to occur. Perfect tranquillity should be enjoined, and usually it will be proper to compose the system by means of an anodyne. But the more promptly we may have cut short the period of primary irritation, the less serious will be the consecutive vascular and nervous derangement. These pathological states, indeed, bear to each other a relation analogous to that which exists between the cold and hot stages of an intermittent.

61. To avoid reiteration, we must necessarily defer the consideration of that variety of constitutional irritation resulting from burns, until we shall treat particularly of these injuries. I would remark, however, that those therapeutic principles which apply to other forms of irritation, are applicable here also, and we shall find the treatment of burns to be illustrated by that which we are now inculcating.

62. When constitutional irritation results from the action of a blister, spontaneous re-action would ordinarily soon result; but the affection is distressing, and to the patient alarming—sometimes, also, seriously protracted. It therefore demands our attention. The effectual remedy is a liberal anodyne in the form of tinct. opii, aided by external warmth and hot drinks, which dispel the more quickly the chill that usually accompanies the paroxysm.

63. I would here remark, that in all those cases in which the cause of irritation is for a time continued, and this pathological state in a degree protracted, narcotic anodynes are the legitimate antagonists of irritation, which they meet and neutralize in the nervous system. They constitute by far the most important

class of our remedies; for, although they generally, more or less excite the vascular system, they certainly obtund the sensibilities of those tissues on which irritants primarily act, and especially those of the nerves. They also, by their general influence on the nervous system, arrest the morbid exercise of sympathy, and the communication of disease from one organ to another, or to the system.

64. In regard to constitutional irritation from surgical operations, we have an advantage not enjoyed in the treatment of other forms, since we may often anticipate its occurrence, and, in a degree, fortify the system against it. We also have it often in our power to select that period in the progress of the local affection propitious to the success of our operations; but this topic we shall discuss more fully under the head of amputations.

65. When we are about to execute a surgical operation of even trivial magnitude, upon a sensitive subject, it is prudent to administer thirty or forty drops of the tinct. opii, a few minutes before its execution. If the operation be one of formidable character, twice that quantity may be employed, care being taken to ascertain whether there exist any idiosyncrasy forbidding its use.

66. We are often importuned by those about to suffer severe operations, to render them insensible to pain by powerful narcotics. Immediate suffering might thus, it is true, be partially obviated, but we are well aware that the secondary effects of opium are productive of cerebral engorgement, and general irritability, circumstances extremely unfavourable to the happy results of most surgical operations.

67. The horizontal posture is that in which a patient best endures the infliction of pain, and when possible, this should be employed. I have recently couched the eye of a gentleman, who had been previously thrice operated upon by an intelligent surgeon, who placed him in the usual sitting posture. After each operation, he had been immediately seized with tremors, sense of faintness, and vomiting, which greatly distressed the wounded organ, and probably assisted to defeat the complete success of the operation. Warned by these occurrences, I followed the advice of Dupuytren, and in operating on this gentleman, placed him in the recumbent posture on his bed, so that no locomotion was necessary after the operation. In the first instance, he completely escaped all unpleasant symptoms, and in the second, they were slight, and did not occur for some hours, and not till he had become a little exhausted by incautious exertion.

68. In operations necessarily protracted and painful, the prudent surgeon will, when practicable, give his patient the occasional respite of a moment from his suffering, in order to give the vital powers an opportunity to rally. An intelligent physician, on whom I recently performed lithotomy (in whose case there was peculiar difficulty, because the calculus was encysted,) assured me that but for these moments of comparative rest, he must have lost all power of endurance, and perished on the table. At these moments the patient should also be allowed cool water, or wine and water. He should be cheered by the sustaining voice of hope, and assured of speedy relief. The operation should be performed with as much celerity as is consistent with precision. From time to time the pulse should be examined, and should it at any moment give evidence of extreme prostration, the operator must desist, if possible, till re-action is in some degree induced.

69. Should extreme pain persist, after a surgical operation, a liberal opiate (tinct. opii f. ʒ i, to an adult) should be immediately administered, lest the continuance of local irritation should further disturb the constitution. To preclude the occurrence of chills, such as often follow from severe, and in some, from slight operations, an anodyne may be given, the extremities be kept warm, and warm drinks be exhibited.

70. Constitutional irritation, induced by great loss of blood, furnishes a case of most perplexing character for the management of the surgeon. There is exhaustion, and yet there is at times over-action;—we wish to increase the power to sustain, and yet we would sedulously avoid to increase action. At one moment the arteries bound with an apparent force, which will sometimes tempt the young surgeon to resort to the lancet;—at another moment, their faint pulsations seem to demand the use of the most diffusible stimulants. These are both deceptive indications. In such a case, two objects are to be held in view; the first—to restore and sustain power; and the second—to obviate irritation, which is exhausting it by compelling it to excessive action. In all such cases there is some focus of irritation, or debility alone would be the consequence of loss of blood. The philosophical plan of treatment would therefore appear to consist in the judicious employment of anodynes, revulsives, corroborants, and in the use of nutrient, but unirritating aliments, and the careful avoidance of all moral and physical excitants. It is also highly important that the tendency to unequal excitement should be obviated by the suitable employment of local sedatives and stimulants, particularly cold and warmth.

71. Opium employed under these circumstances, exhibits far less of its stimulating influence than ordinarily. The occasionally increased action of the pulse, is owing, not to permanent excitement in the heart and arteries, but to irritation, of which opium is the legitimate antagonist, and no sooner is a full anodyne exhibited, than the tumult of vascular action is assuaged. The salts of morphia will generally be found more salutary than opium. An idiosyncrasy might forbid the use of either, and then digitalis, or the extract of hyosciamus, may be employed.

72. The tonics resorted to, should be those which are but little stimulating, and which act especially on the stomach. Bitter vegetable infusions will, therefore, be selected, such as those of Columbo, quassia, &c. also the sulphate of quinine, in small doses. Preparations of iron are, perhaps, second to none in value. Porter, in small quantities, will often be found most salutary, by virtue of its anodyne, its tonic, and its nutrient qualities.

73. The secretions being defective, and often morbid in these cases, and the bowels usually slow, the pil. hydr. with rhubarb or aloes, will be found a salutary aperient. Harsh cathartics must be carefully avoided, for if gastro-enteric irritation do not already exist, it is easily induced.

74. Nothing can be more important in the management of these cases, than the observance of the most perfect tranquillity. Even the eye and ear should be placed at rest, by the absence of light and sound. So excitable is the nervous system, and especially the optic and auditory portions, that ordinary noises and light will alone keep up a perpetual excitement. I have recently treated a case of constitutional irritation from exhaustion, in which such was the exquisite tenderness of the eye, though there existed no evidence of inflammation, that not only was it necessary to completely darken the room, but also to use a close screen over the eyes.

75. Whatever plan of treatment is pursued, however, it must be chronic, like the disease, and recovery must necessarily be slow and tedious.

76. The reader will observe that I have merely taken that view of this part of our subject which is most interesting to the surgeon. For more particular information, I must refer him to the writings of Marshall Hall and Mr. Travers. I would here remark, that when the febrile symptoms strongly qualify irritation from loss of blood, the case becomes one of irritative fever, and will be briefly discussed in its proper place.

ARTICLE II.

Contributions to Pathology, consisting of a Report of Cases which occurred in the Baltimore Infirmary, with Remarks. By the EDITOR.

THE following cases are chiefly interesting on account of the extent of the organic lesions discovered after death, and the physiological and pathological inferences which may be deduced from them. In relation to therapeutics, they afford but little practical interest, except so far as the total inadequacy of remedies to effect any material amelioration of the sufferings of the individuals may be considered important. On this account, all details of treatment are omitted in some of them, and only such remarks offered, as are suggested by the relations of the respective cases to physiology and pathology. In these respects, each one of them presents several points of interest, and deserves to be attentively analyzed. It is indeed only by generalizing upon facts of an analogous character, that those fundamentable and immutable principles can be established, which we may hope will, at some future day, reduce medicine to the condition of a fixed and positive philosophy, free from the vague and bewildering hypotheses by which it has been so long encumbered, and which still continue to retard its progress and detract from its usefulness. Pathological anatomy has already yielded many rich treasures, which have contributed greatly to the improvement of medical science; and cultivated with a proper spirit, it is capable of unfolding, daily, some new principle, to be added to the common stock, and which united the valuable facts elicited by the careful and diligent clinical observations for which the present age is so remarkable, cannot fail, sooner or later, to bring about the important consummation to which we have adverted above.

Within the last thirty years, the whole mode and tenor of medical investigations have undergone a complete revolution. The new and inexhaustible mine laid open by the great Bichat, in the creation of the science of general anatomy, has gradually alienated the attention of medical philosophers from their blind and exclusive attention to the hidden and impenetrable mysteries of vitalism, and in proportion as it has become fixed upon the rich domain of structural anatomy, illustrated as it has been by a careful observance of vital phenomena, their investigations have been submitted to the guidance of the rules of induction, and conducted them from an observance of isolated facts, to the establishment of those legitimate conclusions, which are the logical sequences of a true philosophical analysis. Minute anatomical structure must be the starting point of all physiological and pathological researches; and it is just as impossible for an individual who is devoid of this preliminary knowledge, to reason correctly upon the complex operations of the vital economy, or to understand the intricate physiological and pathological laws of the living machine, as it would be for one who is ignorant of the arrangement of a complex piece of mechanism, to comprehend the principle of its action, or to adjust its different parts, in that order which is necessary to enable them to co-operate in the production of those results, which it is their office to fulfil. We repeat, therefore, that an accurate knowledge of minute or structural anatomy is the only key to physiology and pathology; and it is only after the mind has been enlightened by this indispensable prerequisite, that it can be qualified to comprehend the mysteries of the vital economy, and to contemplate, with any fruitful results, the complex and diverse functions by which our existence is preserved, and those derangements and perversions of their natural harmony, which are developed amongst them by the influence of physical and moral agents.

While, therefore, structural anatomy should constitute the inception of our investigations, the next step, after we have carefully analyzed the texture of every tissue and organ, is to determine their respective vital endowments; to ascertain their comparative susceptibilities to the same, and to different impressions—to investigate carefully the series of acts by which each one accomplishes those general purposes or functions for which it is intended; and, finally, the reciprocal influences and dependencies which we perceive operating between the entire series, or particular parts of the series, through the intermedium of the chain of sympathies by which all the parts are associated.

By these steps, we are conducted to a knowledge of the laws of the healthy living system, as far as it is allowed us to comprehend them; and having advanced thus far, we can, by a similar mode of investigation, arrive at an acquaintance with the pathological laws which operate in the developement of those perversions and alterations of the healthy structures and functions, under the agency of the preternatural influences to which the organism is exposed. Knowing the texture and vital endowments of the different tissues, we are prepared to appreciate the alterations to which the one is liable, under the influence of the derangements impressed upon the other; and we thus pass from the study of healthy, to that of diseased structure;—from the contemplation of healthy or physiological acts, to the observance of those which are abnormal or pathological. We investigate each step of the transition from the one to the other, and as an ultimate result, arrive at a knowledge of those laws of pathological physiology, which are a natural sequence of a philosophical investigation of the conjoint static and dynamic phenomena of the animal economy in health and disease, and which alone can furnish a safe and certain basis for our system of therapeutics.

It is this that constitutes the principal distinguishing feature between the anatomy of the present day, both healthy and pathological, and that which was the object of the study of our ancestors; it is this which has impressed a new character upon modern physiology—created, as it were, anew, the whole science of pathology, and even extended its ameliorating influence into the domain of therapeutics. Before the time of Bichat, anatomists confined their attention chiefly to the form and relations of the organs—the mere external configuration, size, and connections of the different parts, bestowing but little attention upon their intimate texture, and with a few exceptions, neglecting that minute and elaborate analysis of structure, which has since been so fruitful in improving the condition of the science. A knowledge of the forms, relations, and connections of organs is unquestionably valuable to the surgeon, in enabling him to understand the nature of the physical lesions which he has to treat, and in furnishing him lights to guide his hand in the performance of surgical operations; but it is equally clear, that such information is of comparatively little value to the medical pathologist: his investigations are not restricted to external qualities; "they must fathom the depths of the organization, and attach themselves, as it were, to the substratum of the organs and tissues, and their internal arrangement."

But this truth, self-evident as it is, does not seem to have been so generally admitted, as its importance deserves. Notwithstanding the important revolution that has been effected in the method of studying and teaching anatomy, there are still too many, who adhere blindly to the old routine, and instead of directing their attention to those investigations, which are calculated to render their labours a fruitful source of instruction to those for whose edification they are specially intended, content themselves with a tedious enumeration of forms, and prominences, and foramina, and insertions, which the student can seldom remember, and if he could do so, would never be able to apply them to any useful purpose. And these are the persons who decry general anatomy! who discourse learnedly about the necessity of giving to lectures a *practical* character, and by a specious sophistry, divert the minds of their pupils from that train of investigation, which is indispensably necessary to make them either good physiologists, sound pathologists, or successful practitioners.

But lest we should be charged with attaching an undue importance to those pursuits to which we have been ourselves devoted, and condemning too strongly the course of those who possess different sentiments, we shall allow one to speak, who cannot be accused of being influenced by such a bias. A writer in the *Medico-Chirurgical Review for January*, 1835, p. 138, holds the following language in reference to this subject:

"It is impossible for any who are conversant with the method of teaching anatomy now practised in the *best* metropolitan schools, to avoid perceiving the great alteration which that method has experienced in the last few years. Mr. Abernethy, we believe, was the first to adopt a slip-slop mode of lecturing, in which minute and rigid demonstration was sacrificed, and a very superficial description of anatomy was patched and garnished with trimmings of physiology, pathology, and therapeutics. The lecturers of the Abernethian school resembled very closely that liberal cook, who offered for three-pence, a dinner consisting of 'roast and boiled.' He kept his word; but, when the covers were removed, potatoes were the only dish.

"The abandonment of minute anatomy, and the association of pathology and surgery along with it, offered a short cut and an easy path to the deluded student. The lecture-room and manual were occupied alike with his very promising and very profitless species of instruction. Much was said, but little taught; and if the student had not the fortune to be made a jack of all trades, he certainly was not a master of anatomy."

A better picture of the practical lecturers on anatomy of the present day, could scarcely be drawn, and we regret to say, that the American, as well as the British schools of medicine, still abound with too many examples to which the likeness will apply. Would we could hope for the consummation of the sentiment expressed by the able writer just referred to—that "such lecturers will be shunned as idle praters or absolute impostors, and that the race of *fainéants* must quickly disappear." We would most cheerfully join with him in his benediction, "peace to their manes!" as we do in the belief, that "they belong as certainly to a former age, as if they had been born two centuries ago."

Unfortunately, this faulty method of investigation is not confined to the domain of healthy anatomy. It has also spread its blighting influence over pathological anatomy. There are few physicians of the present day, who question for a moment the importance of the study of organic lesions; but while a large number of them direct their attention to such pursuits, too many seem to think they have achieved all that is necessary, when they have discovered some change of colour or texture, or some alteration of the form, size, or situation of an organ, and pass by unnoticed the intimate modifications the tissue has undergone, the changes of the vital powers which have been instrumental in producing them, and the functional disturbance awakened by them in the several organs, during the progress of their development. The mere outward form and appearance of organic lesions is of no more practical importance than the outward forms and appearance of the healthy organs. It is only when they are rigidly analyzed—when they are reduced, as it were, to their elements; and, especially, when they are considered in relation to the vital or dynamic powers by which they are induced, and with which they are associated, that they acquire a practical value; because it is only when investigated in these relations, that they associate themselves with pathological physiology—the ultimate object of all such investigations, and the only one that can aid in attaining a knowledge of the characters and treatment of diseases.

It may be thought that these observations are foreign to the objects of this paper. We have made them, because they represent the spirit which we constantly desire should govern us in our investigations; or, in other words, our confession of faith, in relation to pathological inquiries. They will serve to explain the reasons for some of the reflections which we may have occasion to make as we proceed, and furnish an excuse at least, for discussions, which may be considered by some, as out of place. They represent the spirit of analysis which we shall attempt to apply in the following cases, and we shall now proceed to detail them without further comment.

Case I. *Necrosis of the metatarsal bone.—Operation, succeeded by irritability of the stomach and intense jaundice.—Death.—Cancer of the duodenum, obstructing the ductus communis choledochus.—Cancerous matter filling and obstructing the vena portæ.—Extraordinary dilatation of the excretory vessels of the liver, and extensive disease of that gland.*

Thomas Power, seaman, was admitted into the Baltimore Infirmary, March 31, 1835, on account of necrosis of the metatarsal bones. He had remained in the institution some time, on a previous occasion, for the same affection, at which time an operation was performed by Professor Smith, for the removal of a portion of the diseased bone. At the period of his second admission, he fell under the care of Professor Hall, who made an incision with the object of removing the necrosed bone, but finding it adherent, desisted from any further attempts to effect its removal. He became very much depressed during the operation, and was seized next day, with alarming irritability of stomach, and incessant vomiting and purging. There was no pain or tenderness on pressure in the epigastric or hypochondriac regions, nor any symptom indicating inflammation of the first passages, except the dejections by vomiting and stool. The pulse was feeble, waving, and almost indistinct in its beat; and not more than forty-five in a minute. The tongue was red on the borders, and heavily coated with a dark fur in the middle. The alvine evacuations were dark, watery, and fœted: the temperature of skin was but little elevated above the natural standard. On the third day, universal jaundice supervened, but no marked change of the other symptoms took place. The irritability of the stomach was combatted by effervescent soda powders, and he was directed to take a pill, composed of two grains blue mass, and half a grain of opium, four times a day.

April 4th. The general jaundiced state of the skin is somewhat diminished: the fur of the tongue is whiter and of a cheesy appearance, and the stools are of a pale colour, very offensive, and of a clayey consistence. The pulse remains the same—treatment of yesterday continued.

5th. The intensity of the jaundiced hue has returned; pulse somewhat more frequent and weaker; strength reduced; feels very much oppressed. Same treatment continued, with a small quantity of brandy toddy through the day.

6th. Great prostration of strength, but experiences no pain; continue treatment.

7th. Irritability of stomach subsided; pills discontinued, the mouth being a little sore. Alvine evacuations becoming more healthy and consistent—continue the other remedies.

8th. The jaundiced state of the skin, which had abated considerably last night, has returned; the pulse continues unchanged; blister to the right hypochondrium.

10*th.* The blister remained on two days before it vesicated; vesicated surface dressed with mercurial ointment, and porter to be taken through the day.

15*th.* As the general debility is increasing, and his sufferings are increased by the stimulating draughts ordered for him, he is directed to take sulph. quinine and diluted sulphuric acid. This course was continued from this time to the 7th of May, the period of his death, without much apparent change in his condition, except that his emaciation and debility increased. His stools, for the last three days, were very fœted and bloody, and contained a great quantity of a material which was supposed to be fatty; but as the extensive mischief which was found to exist after death was not suspected, not much attention was directed to this point.

Autopsy.—The thoracic organs presented nothing of interest; but on laying open the cavity of the abdomen, the liver was found to be greatly diseased. It was increased in size,—was hard, and exceedingly uneven on the surface, and of a dirty grayish brown colour. It was carefully detached and removed, in connection with the stomach, duodenum, and pancreas. On prosecuting the examination of these parts, it was found that the stomach presented no very striking evidences of disease. The second curvature of the duodenum, however, exhibited a considerable indurated mass, intimately incorporated with the head of the pancreas which was very much increased in size, and exceedingly hard and uneven on the surface. On laying open the diseased portion of the duodenum, it was found to be extensively involved in encephaloid degeneration, which formed a thick mass surrounding the whole intestine, and involving the adjacent portion of the pancreas. Upon the inner aspect of the intestine, this mass was in an extensive state of ulceration, especially upon two sides of the gut, which condition occupied a considerable extent of its surface. This mass occupied that portion of the duodenum which is entered by the common duct of the liver, and so completely occluded that vessel, as to render it almost impossible for any thing to pass through it. In consequence of this, the gall bladder was enormously distended, forced out from the liver, its neck rendered almost obsolete, and together with the cystic duct, which was very much dilated, formed a kind of continuous cylindrical tube, as large as the finger. Indeed the whole of the excretory apparatus of the liver, both within and without the gland, was in this enormous state of distension. The common duct was dilated to the size of the middle finger, and on tracing it up towards the transverse fissure of the liver, the hepatic duct and the two branches which form it, were found in the same condition. At the point at which the latter emerge from the gland, they were large enough to receive the tip of the middle finger, and as they were proportionably dilated to their radicles in the intimate substance of the organ, they could be easily traced out to their origin, and an excellent opportunity was afforded for studying their anatomical arrangement. They were distended with a greenish coloured mucous fluid, which flowed out in great abundance when the liver was sliced, and led at first, before the real condition of the ducts was discovered, to the supposition, that it proceeded from numerous cysts, occupying the substance of the gland. The tunics of the excretory vessels were much thickened throughout their entire extent, thus rendering it easy to recognize the properties of a mucous tissue in the whole of the lining membrane, which presented a fine soft reticulated appearance, contrasting strongly with the dense polished membrane which lined the neighbouring ramifications of the portal vein. The gall bladder contained, besides the large quantity of fluid by which it was distended, a number of small dark coloured biliary calculi; and several of the same kind were lodged in the common duct, where they tended to increase the obstruction occasioned by the encephaloid tumour of the duodenum. The most interesting lesion was, however, the complete occlusion of the trunk of the portal vein and its primitive bifurcations, by encephaloid mattter. The trunk of this vessel, for some distance from the liver, was completely plugged up with this peculiar substance, and on laying open its left and right branches, the same closure was found to occupy the former, nearly as far as the point at which it branches out into the left lobe, while in the latter, it even extended farther,—several of the subdivisions of the vessel within the substance of the right lobe being closed up by the same pulpy material. In one portion of the trunk of the vein, the diseased product seemed to be slightly attached to the inner surface of the vessel, by means of an exceedingly delicate pseudo-membrane of a red colour; but such an adherence was not discovered at any other point. The hepatic artery was in a healthy condition, and did not seem to be increased in size. The lower portion of the duodenum and the upper portion of the jejunum, contained considerable mucous secretion; but towards the lower part of the latter intestine, this fluid assumed a dirty wine-lee appearance; and in the ileum, it was mixed with a considerable quantity of dark coagulated blood, which occupied likewise the whole of the lower part of the intestinal canal. The mucous membrane, however, exhibited no very important traces of disease affecting its texture. (*Reported by* MR. D. McMEAL.)

Remarks.—We shall first endeavour to deduce from the analysis of this case, some illustrations of the anatomical arrangement of the hepatic ducts within the liver—a subject which, since the time of Malpighi and Ruysch, has given rise to much difference of opinion.

There are two questions bearing upon this point, which remain to be decided. The first is, to determine whether there is any continuity between the blood-vessels of the liver and the radicles of the hepatic duct: the second, the arrangement of the latter at its origin within the liver, and the precise relations between its radicles and the acini of the gland.

Ruysch, influenced by his peculiar views in relation to the structure of glands, maintained that the convoluted vessels, which he supposed compose their acini, inosculate by their extremities with the radicles of their excretory ducts, and consequently, that injections can be passed from the one into the other. A similar opinion was adopted by Sœmmering,* who represents, that injections thrown into the vena portæ, pass readily into the hepatic duct, and vice-versa. Meckel, while he admits the existence of this inosculation, represents, that when fine injection is thrown into the hepatic duct, it does not ordinarily pass into any other vessels, but in a few instances, enters the lymphatics and the portal veins.† The opinion of Sœmmering is also adopted by Cruveilhier, who affirms, that in whatever vessel injections are thrown, they pass into all the others, manifesting the existence of a direct continuity by inosculation, between the different orders.[*] A similar opinion has been very generally advocated by anatomists; but it is greatly invalidated by the authority of others of equal respectability, especially by the researches of Malpighi, Prochaska and Mappes; and the recent elaborate investigations of Johannes Muller, Weber, Kiernan, and others, go far to disprove it. Muller[†] and Weber have ascertained, that the radicles of the hepatic ducts, which are always larger than the capillary blood-vessels, present blind extremities, like the termination of the bronchial tubes in the lungs; that one of these forms the fundamental arrangement of each acinus, or granule of the gland; and that the capillary terminations of the blood-vessels ramify and form an intricate vascular plexus upon these blind extremities of the excretory tubes, and thus furnish the materials from which the bile is formed. The immense number of radicles thus commencing, gradually unite to form branches, and these branches, in their turn, form by a similar union the main trunks of the hepatic duct, which exhibits an arborescent arrangement, the extremity of each of its ramifications, which is closed, being placed in the centre of one of the granules of the liver. Nearly the same view of the subject has been taken by Krause[§] and Kiernan;[||] and while all these authors adopt this opinion relative to the arrangement of the excretory ducts of the liver, they, as well as Mappes,[¶] infer as a natural sequence, that there is no continuation by inosculation, between these ducts and the blood-vessels; that injection cannot, therefore, in the natural state, be passed from the one to the other, and that if ever such transmission does take place, it is at the expense of rupture, in the same manner that it sometimes occurs when minute injection thrown into the pulmonary artery, that a small portion of the fluid is extravasated in the bronchial tubes.

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* Corp. Humana Fabrica, tom. vi. p. 180.

† Manual d'Anat. tom. iii. p. 455.

So far as the authority and researches of these distinguished anatomists can be admitted, both the problems to which allusion was made above, may be regarded as solved. But as it is extremely difficult to inject the roots of the hepatic duct in the healthy state, to their origin in the granules of the liver, it is evident, that more satisfactory conclusions can be deduced from the examination of these vessels in the pathological condition in which they were found in the case under consideration, where they were so inordinately dilated, as to render it easy to trace them with the naked eye, to their points of origin. This we were careful to do. The trunks, branches, and primitive ramifications or radicles of the hepatic ducts, were carefully laid open with sharp scissors, and distinctly traced out to their blind extremities, when it was found that each one of them represented a kind of *cul de sac*, imbedded in the granulated structure of the liver, these blind extremities being closely clustered together, and the ramuscules which proceeded from them were seen converging, to form branches, all of which terminated in the main trunk for the corresponding lobe.

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[*] Anat. Descriptive, tome, ii. p. 573.

[†] De Gland. Secernent. Structura, &c. fol. Lips. 1830.

[‡] Meckel's Archives für Anatomie und Physiologie, 1727.

[§] Handbuch der Mensch. Anat. i. 90, 1833.

[||] Lond. Med. Gazette. Dec. 1834.

[¶] Dr. Penitiori Hepatis Humani Structura, 4to. 1817.

Regarding, then, these minute blind extremities of the radicles of the excretory ducts as the fundamental portion of the gland, or rather of each granule, it is easy to conceive how the intimate anastomoses between the portal and hepatic veins, and the hepatic artery, together with the lymphatic vessels, by twining upon the surface of the several *culs de sac*, form the dark coloured parenchymatous arrangement which has been supposed to constitute a set of granules distinct from those called yellow, but which are in reality identical with them. Those to which the latter term has been applied, owe their yellow colour merely to the bile with which they are tinged, in consequence of that part of them which presents this hue, being formed by the radicle of the excretory duct, while the dark coloured portion is formed by the blood-vessels, so that there are not, in reality, two orders of granules in the liver, as supposed by some able anatomists,—the dark and the yellow colours, upon which that distinction has been predicated, existing in different portions of the same granule, the yellow colour being confined to its centre, while the dark only exists at its circumference.

Another important feature in this portion of anatomy is, that the whole of the excretory apparatus of the liver is lined by a mucous membrane. This is not only true of the common, the hepatic and cystic ducts, and the gall-bladder, but likewise of the whole of the ramifications, and even the minute radicles of the excretory ducts, to the points at which they arise from the acini of the gland. This fact, though generally known, has not been sufficiently regarded by physiologists and pathologists. The properties of a mucous membrane were fully recognized in the case under consideration, and in the larger branches of the excretory ducts, mucous crypts were distinctly observed. As this mucous tissue is continuous with that which lines the duodenum, it forms a channel, by which impressions may be transmitted directly from the latter organ to the intimate structure of the liver, or in a contrary direction, and thus explains the intimate relations, both physiological and pathological, which exist between these parts.

2. *Physiological Considerations.*—The chief physiological considerations upon which we shall offer any comment, are those suggested by the total occlusion of the portal vein. Two questions naturally grow out of this condition, which it would be interesting to solve: 1. To determine the route by which the blood returned through the numerous branches of the portal vein reached the liver, or if it did not circulate through this gland, the channels by which it reached the vena cava and the right side of the heart. 2. The long mooted question, whether the bile is secreted from the blood of the portal vein. It is evident that any conclusions formed from the present case, relative to these matters of inquiry, must be the result of conjecture, since injections were not resorted to, by which the first question could alone be decided, and since we have no positive means in the phenomena observed, of settling the second.

Assuming, by way of illustration, that the blood of the portal system could not be circulated through its usual channels in the substance of the liver, the existence of a free anastomoses between the branches of that portion of the system, and those which communicate either directly or indirectly with the vena cava, afford a route of adequate extent by which the blood could be returned to the heart. This connection, which has been noticed by most anatomists, has been recently more fully described by Professor Retzius, of Stockholm. In preparing some injected preparations of the venous system, he discovered that by tying the vena portæ near the liver, and throwing a coloured injection into the portion below the ligature, (the vena cava being first filled by injection of a different colour,) branches were filled, some of which proceeding from the duodenum terminated in the cava, while others, arising from the colon, terminated in the left emulgent vein. He also discovered veins proceeding from the rectum, to terminate in the venous plexus of the genital organs. By subsequent investigations he observed an extensive plexus of minute veins ramifying in the cellular tissue on the outer surface of the peritoneum, part of which communicated with the vena portæ, while the other part terminated in the system of the vena cava. In a successful injection, these veins were seen anastomosing very freely in the posterior part of the abdomen with the colic veins,—likewise with those of the kidneys, pelvis, and even with the vena cava.*

Through these numerous channels, the blood pertaining to the system of the vena portæ could return readily to the heart, although precluded from passing through the liver; and the anatomical arrangement here described, may be regarded as affording a satisfactory explanation of one part of the first question.

But the most difficult portion of the same question yet remains to be answered:—Is there any natural channel or anastomosis, by which a portion of the blood of the portal circulation could reach the liver, notwithstanding the total occlusion of the main trunk of the vena portæ? We think the facts stated above justify a reply in the affirmative. It has been seen, that the portal and general venous systems anastomose very freely upon the whole of the outer surface of the peritoneum, both upon the anterior and posterior walls of the abdomen. Inasmuch, therefore, as this membrane is reflected from the diaphragm over the surface of the liver on the one hand, and on the other, from the transverse fissure of the concave face of the gland along the vessels, to the stomach, we can readily conceive, that the anastomosing plexus of veins in question, which follow the outer surface of the peritoneum, might furnish ample means for the transmission of the portal blood from those venous branches, which by their confluence form the trunk of the vena portæ, to the ramifications of that vein which are expended in the liver, and thus circulate a sufficient quantity of this blood in the substance of the gland, to subserve the purposes of biliary secretion, even where the main trunk is obliterated, as in the present case. We see similar provisions of nature operating in other parts of the vascular system, and there is no valid reason why they should not prove equally efficient in this. It is no more difficult to conceive, that the ramifications which form the two opposite extremities of the portal venous system should be united to each other by means of a free anastomoses, than it is that a similar connection should exist between the branches of the superior and inferior cava; and we have abundance of evidence to prove, that when either the one or the other of these latter veins are obliterated, the anastomoses alluded to is amply sufficient to maintain the venous circulation. This then, to us, is a satisfactory explanation of the other part of the first question; and it enables us to understand how the biliary secretion continued to be performed, although the trunk of the vena portæ was obliterated.

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* Tiedemann und Treviranus, Zietschrift fur Physiologie, v. Heft. i. 1833.

Is the bile secreted from the blood of the portal vein? Those who contend that the biliary secretion is formed from the blood of the hepatic artery, will doubtless object to the explanation given above, and invoke the phenomena presented by this case, in support of their hypothesis. Although the strength of the argument may appear at first view to be in their favour, when all the objections to their doctrine are duly weighed, they lose their advantage. The reasons adduced in favour of the inference, that the bile is formed from arterial blood, and those by which it has been combatted, are too numerous to be detailed. We shall, therefore, confine ourselves to the principal one, which from its being predicated upon a circumstance analogous, in some respects, to that which existed in our case, may be refuted by arguments similar to those adduced above.

The argument which has been most strenuously insisted on, as affording conclusive evidence that the bile is secreted from the blood of the hepatic artery, is predicated upon two cases; one observed by Mr. Abernethey, the other by Mr. Wilson, in which the vena portæ did not enter the liver, but communicated directly with the vena cava. It was inferred from these cases, that as the bile was secreted from arterial blood, the venous blood of the portal vein could not be the natural source from whence the materials of the biliary secretion are derived. The circumstances, as regards the physiological condition of the organ, were here nearly the same as in our case, and indeed all those, in which the trunk of the vena portæ has been found obstructed. Do they warrant the inferences which have been deduced from them? We think not. There are facts which completely invalidate these conclusions, and prove, contrary to the opinion adopted, as far as proof short of absolute demonstration can avail, that even under these circumstances, the bile was formed from venous blood, in the same manner, and by the same process, that it is secreted from that fluid in the natural condition of the organ.

Let us in the first place examine Mr. Abernethey's case, and see how far it warrants the inference that has been drawn from it, or whether it presents any thing incompatible with the belief, that the bile is secreted from the blood of the vena portæ.

Mr. Kiernan remarks, that Mr. Green had been in the habit for some time of suggesting, that the umbilical vein probably ramified through the liver in this case, and that the hepatic artery communicated with it, and consequently that the vein, and not the artery, conveyed the blood to the secreting part of the liver. Sir Charles Bell also remarks upon the same case, that it is possible the ramifications of the hepatic artery may have opened into the branches of the veins answering to the extremities of the vena portæ. The suggestion of Mr. Green has been fully confirmed by Mr. Kiernan, who lately made a minute examination of the liver in question, in presence of Mr. Mayo, Mr. Stanley, and several other gentlemen. "He found the open and uninjected ramifications of the umbilical vein (the hepatic portal vein) accompanying, as usual, the branches of the hepatic artery and duct."

This circumstance is important in the argument, and corroborated by inferences susceptible of being deduced from the nature of the connection between the minute ramifications of the hepatic artery and the vena portæ, it goes far to prove, that under all circumstances, the blood from which the bile is secreted is venous, even though it may not be derived from those organs which give rise to the principal branches of the vena portæ. The following explanation of the arrangement of the hepatic artery will render this intelligible. It follows accurately the branches and ramifications of the vena portæ; it forms a delicate plexus of minute ramusculi which weave a kind of net-work upon their surface; it also furnishes the vasa vasorum for those vessels, and for the hepatic ducts, and the hepatic veins; and when minute injection is propelled through it, all these vasa vasorum are filled, and the injection passes into the ramifications of the vena portæ, but not into those of the hepatic vein.* The blood of the hepatic artery, therefore, in its transit through these vessels, after having nourished the parts to which it is distributed, becomes venous, and in this condition enters the portal veins, "where, commingling with the proper blood of those veins, it is conveyed to the coats of the secreting ducts,"† and subserves the secretion of the bile.

While this is what takes place where the vessels present their natural arrangement, it is clear, that under those circumstances in which the proper blood of the vena portæ is precluded from entering the liver, either by obstruction of the vein, or by its opening directly into the cava, the free communication of the hepatic artery with the whole of the branches and ramifications of the hepatic portal veins, the necessary transition of the arterial into venous blood before it reaches the latter vessels, and its final transmission by them to the coats of the secreting ducts, sufficiently demonstrate that the bile, even under these circumstances, is secreted from venous blood. Besides, we have shown how it is possible in our case, for a part of the proper blood of the vena portæ to have reached the liver through the extensive anastomoses described by Professor Retzius, notwithstanding the trunk of the vein itself was completely closed. There can be no difficulty, therefore, in comprehending how the biliary secretion was performed, without being obliged to resort to the inference, that the secretion was effected from the arterial blood.

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* Kiernan, loc. cit. p. 390.

† Ib.

Experiments on the hepatic artery and the vena portæ have been instituted, with the object of ascertaining which of them is instrumental in secreting the bile. These investigations, however, have not resulted in the establishment of any positive conclusion. In two cases in which Mr. Phillips* applied a ligature to the hepatic artery, the secretion of the bile was not interrupted; but the same thing was observed in three other cases, in which the ligature was applied to the trunk of the vena portæ. Besides, Andral, Bouillaud, and others, have reported several cases in which that vein was obstructed or obliterated, yet the biliary secretion continued; so that, from all the data we have been able to collect, we think the arguments in favour of that opinion, which makes the venous blood the source of this secretion, are the most conclusive; because, independently of other circumstances, they are most conformable to the anatomical arrangement of the vessels of the liver, and the objections which particular cases present against such a conclusion, it will be seen from the foregoing observations, are more apparent than real.

3. *Pathological Considerations.* After the remarks which were made in the description of the post mortem phenomena, it cannot be necessary to dwell upon this part of our subject. The existence of encephaloid matter in the veins, when the parts from which they take their origin are the seat of that pathological state, is a curious circumstance, and naturally suggests the ques-

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* Lond. Med. Gazette, ii. 423, 1833.

tion, whether these vessels are instrumental in developing this peculiar matter, or whether they merely become the recipients of it, in consequence of its being conveyed along their branches from the seat of its formation. Much might be said in regard to both these positions, but in the absence of positive information we shall not discuss the subject. Certain it is, that encephaloid matter is not unfrequently found in these vessels when the organs are the seat of it; but we only know of one other case, in which it obliterated the trunk of the vena portæ, as in the instance under consideration. That case is reported and figured by Carswell, in his splendid plates of pathological anatomy,* and the morbid product is represented filling the trunk and branches of the portal vein to a considerable extent. The history of the case, however, is not given, so that we cannot judge how far it corresponds with our own.

Another pathological feature of some interest is, the influence exercised by the obstruction upon the veins of the intestines. It was remarked above, that the patient passed blood in considerable quantities by stool, and that much of that fluid, in a coagulated condition, was found in the lower part of the intestines after death. This is a consequence which we can readily conceive would be likely to supervene under such circumstances. The development of an obstacle to the free transmission of the immense quantity of blood which is derived from nearly the whole of the abdominal organs, must necessarily occasion a preternatural distention of the capillaries of the mucous surface of the intestines and the other organs involved; and if these vessels become distended beyond their capability to resist, hemorrhage or some other physiological or pathological change calculated to relieve them, must ensue. This happened in the present case. The effects of this distention were manifested, first, by the intestinal hemorrhage; and, secondly, by the enlargement of the spleen, which was exceedingly congested and black, and increased to about thrice its natural size. But as the obstruction was doubtless of long standing, it may be inquired why hemorrhage did not sooner take place. A satisfactory answer to this inquiry will be found in the fact, that the anastomoses of Retzius were found adequate, under the ordinary state of the circulation, to allow the blood to return with sufficient freedom to prevent the capillary congestion from reaching that degree, calculated to give rise to rupture or sanguineous exhalation. So soon, however, as the abdominal organs, and especially the mucous membrane, became the seat of exalted irritation, determining an increased flow of blood to them, these collateral channels proved inadequate to return it to the heart, and intestinal hemorrhage was induced. In other cases, the mechanical distension occasioned by the obstruction of the portal veins, relieves itself by a different process:—a copious exhalation takes place from the whole extent of the peritoneal surface, giving rise to ascites, which can only be removed by overcoming the cause of the obstruction, the accomplishment of which is too often impracticable. Andral and Bouillaud have reported several cases of obstruction of the vena portæ, and the latter gentleman, especially, has demonstrated, that dropsy is not unfrequently induced by this cause. The experience, indeed, of all practitioners has taught them, that various diseases of the liver which tend to impede the passage of the blood through it, are a fruitful source of abdominal dropsy; and as many of the diseases of that organ are incurable, it is often found impossible to effect a removal of the serous effusion which is a consequence of them.

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* Illustrations of the elementary forms of disease, fasc. iii. plate iii. fig. 4.

Case II. *Tuberculous degeneration of the liver and heart—Extensive follicular ulceration of the mucous membrane of the stomach.*

A. B. entered the Baltimore Infirmary, on the 21st of March, 1835. He had been sick three or four months, but not confined to bed; and complained at the time of his admission, of difficulty in voiding his urine, and pain in the region of the bladder. His pulse was frequent, hard, and irritable; tongue furred; bowels irregular, and he was troubled with frequent epistaxis. His pains were erratic, shifting frequently to different parts of the body; and after several examinations, his liver was found enlarged and indurated, as was likewise his spleen.

He was submitted to various modes of treatment without the slightest benefit, and his pulse was scarcely affected by the most copious abstractions of blood. He continued to grow worse—became very much emaciated, and died on the 7th of May.

Autopsy.—As permission could not be obtained to examine the body, all the information that can be offered relative to the post mortem phenomena, was procured by a clandestine and very hasty inspection of a few of the organs, and is of course very imperfect.

On laying open the abdomen, the liver was found very much enlarged, rough and uneven on the surface, greatly indurated, and transformed almost entirely into a mass of large tubercles, which, nevertheless, had interspersed between them, numerous small particles of glandular parenchyma of a very light yellow colour. It weighed seven pounds and a half; and when sliced, the surface of the incision with the smooth light appearance of the tuberculous masses, presented very much the appearance of a mass of felspar rock. But notwithstanding the portions of the granulated texture of the liver which had resisted the encroachment of the tubercles, and which filled up their interstices, were small, bile seems to have been secreted in considerable quantity, as the hepatic ducts were deeply tinged with it.

Numerous small tubercles were disseminated over the surface of the heart, between the pericardium and the muscular substance of the organ, but none existed in the latter.

The disease was not confined to these organs; the mucous membrane of the stomach was likewise extensively involved. Some of the follicles were very much enlarged and elevated,—some of them even to the size of a ten cent piece: and those in which the diseased process had advanced farthest, were ulcerated upon the summit, the ulcers being surrounded by prominent ragged borders. One of them, which was very large, was covered upon the surface with a black coloured pseudo-membrane, which adhered closely to it. Unfortunately the condition of the mucous membrane of the intestines could not be ascertained; nor was it possible to examine the kidneys and bladder.

(*Reported by* Mr. J. Hanson Thomas.)

Remarks.—The few details obtained by the inspection of the body in this case, will not enable us to enter into many reflections relative to its character and general phenomena. Tubercle of the liver is not an uncommon disease, yet we are possessed of no means of diagnosis, by which its existence can be determined with any certainty. Nor has the process by which this morbid product is developed been satisfactorily ascertained. Whether it be a consequence of inflammation, as some pathologists contend, or not, one thing at least is highly probable—that the tuberculous matter is a consequence of a mere perversion of the acts of those powers by which nutrition is accomplished in the healthy state, resulting from a total change of the organic elements, operating so far, that the materials which are deposited in the midst of the tissues, instead of possessing those properties which are necessary to enable them to become converted into organized structures, are for the most part devoid of plasticity, and merely form inorganic accretions of matter, deposited in the meshes of the natural structures. While, therefore, tuberculous matter is generally separated from the circulating fluids by the instruments which are concerned in building up the organized solids, its formation seems to possess a greater analogy with the process of secretion, than with that of nutrition; because it is the character of the elements separated by the latter process, to be susceptible of becoming organized, of which tuberculous matter is never capable. Hence some modern pathologists have referred the origin of tubercle to a perversion of secretion; but it will be seen by an investigation of the subject, that the difference is purely verbal, and is of no great importance.

It is impossible, from our limited knowledge of the case, to decide what was the relationship between the affection of the liver and that of the stomach, or which organ was first seized upon by the morbid process. The sympathetic connection between them is so intimate, that affections of the one are very readily transmitted to the other, and this communication takes place with great facility in either direction. The extensive alteration of the structure of the liver in this case, seems to indicate that it was the primary seat of the disease; but it must be borne in mind, that chronic inflammation of the mucous membrane of the stomach and bowels may exist for a length of time, and inflict very serious ravages upon the adjacent organs, without undergoing changes of structure at all proportionate to those which it is instrumental in developing in other parts, through the medium of its intimate sympathies with them.

An interesting feature in this case was the epistaxis. Hemorrhage from the nose has long been known to be a common attendant upon diseases of the liver, yet it is not very easy to account for this association. The most probable explanation is, that the mechanical obstacle presented by the diseased liver to the passage of the blood through its vessels, occasions a corresponding impediment to its passage through those capillaries from which the vena portæ takes its origin; and the circulation through the descending aorta being thus somewhat obstructed, a greater quantity of blood than usual is distributed to the head. But this solution of the question, though apparently plausible, is not free from objections. The hepatic obstruction, we can readily conceive, would tend to give rise to preternatural congestions of the capillary vessels which are in communication with the radicles of the portal veins, yet as a large proportion of these minute vessels are spread out upon the whole mucous surface of the alimentary canal, we see no good reason why hemorrhage should not take place from them, instead of the nose, especially as the vessels of the latter only become affected secondarily. This we should apprehend would be the more apt to occur, as from the investigations of Ribes, it appears, that the gastric and intestinal villi are made up almost entirely of a plexus of minute venus radicles; and Professor Horner remarks, from some recent examinations, that "the mucous coat of the alimentary canal, when successfully injected, appears to consist almost entirely of a cribriform intertexture of veins."* This being the case, it is natural to infer, that an obstruction of the portal vein, of sufficient magnitude to impede the aortal circulation through the intermedium of the intestinal capillaries, would tend rather to give rise to hemorrhage from these minute venous ramifications, than from those of the nose, and we accordingly find, that intestinal hemorrhage is a frequent concomitant or consequence of such obstructions, even when no blood is discharged from the nose.

The following case is of a different character:

Case III. *Asthma.—Aneurism of the arch of the aorta, prevented from rupturing by adhesions contracted with the front of the trachea.—Disease of the pneumogastric and phrenic nerves.—Large glandular tumours compressing them—Hepatization of the lower part of both lungs.—Death from small-pox.*

Robert Williams, seaman, was admitted into the Baltimore Infirmary, under my care, July 14th, 1834. He complained at the time of considerable difficulty of breathing, but did not present any indications of high febrile excitement. The sound elicited by percussion, was dull over the greater part of the chest, and the respiratory murmur was feeble, especially in the submammary regions. Cupping and other remedies, indicated by the phenomena of the case, were resorted to, but without much benefit, and he had not been long in the house, when he was attacked with a violent paroxysm of asthma. As these paroxysms continued to recur at short intervals, this disease became the prominent object of attention, and the whole routine of cups, blisters, tartar emetic pustulation, issues, emetics, nauseants, narcotics, antispasmadics, galvanism, &c. were successively employed, with only partial and temporary benefit. At one period, the tincture of lobelia, and afterwards, the tincture of strammonium, seemed to afford more relief than any thing else; but they gradually lost their effect. The patient remained in this condition, with slight variations, until some time in the month of March, 1835, when he contracted small-pox, and died on the 19th of that month.

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* American Journal of Medical Sciences, May, 1835.

Autopsy.—As we were anxious to ascertain the causes which had occasioned so much disturbance of the respiratory function, the examination of the thoracic organs was prosecuted with much care and attention. On opening the chest, the upper part of both lungs was found crepitating, but the lower lobes were affected with chronic induration, to a degree which almost precluded the passage of the air through them. Although the upper portion of the lungs exhibited the spongy crepitating feel of health, it was found on prosecuting the examination more minutely, that the bronchial ramifications were dilated, and their tunics considerably thickened. The mucous membrane, and the circular muscular fibres especially, were in this condition, and the latter were so conspicuous, that they could be distinctly traced with the naked eye, as far as it was practicable to lay open the tube with the fine points of a small pair of scissors,—thus confirming the opinion so ably sustained by Reisseissen, and refuting that of those who deny the existence of these fibres in the small tubes. The mucous membrane of the larynx, trachea, and the larger divisions of the bronchi, was covered by a soft pultaceous false membrane, and was besides occupied by several small-pox pustules.

The heart was healthy, but the aorta was somewhat dilated in its ascending portion; and the posterior face of the arch, where it reposes upon the front of the trachea, was occupied by an aneurism, in which, however, there were no lamellated concretions. This aneurism was not extensive, and presented the semblance of being formed, at first, by a simple *sacciform* dilatation of all the coats of the posterior face of the vessel backwards, towards the front of the trachea. The latter was somewhat indented or compressed by the encroachment of the tumour, and the cellular coat of the sac had contracted such intimate adhesions with the surface of the trachea, as to prevent the aneurism from increasing much in volume. It is probable, however, that had the life of the individual been prolonged, a communication would have formed eventually between the aneurism and the cavity of the trachea.

Wedged in between the arch of the aorta and the sternum, there was an oval glandular tumour as large as an egg; and posteriorly, reposing upon the back part of the right and left bronchi, there were two larger tumours of the same kind, one upon each side. They forced the pneumogastric and phrenic nerves out of their natural position, and had them ranging over their surface,—the former behind, the latter in front.

One of the most interesting features of the case was the diseased condition of these nerves. Where the pneumogastric chords ran over the surface of the tumour, they were increased to twice or thrice their natural size, and were besides rendered almost as compact as cat-gut strings. The phrenic nerve, on the right side, was in the same condition. In the pneumogastric of the left side, where it crossed the tumour, numerous striæ of an ecchymosed appearance were observed disseminated irregularly through the nervous chord, presenting the aspect of an extravasation of blood, within the minute sheaths or neuralemma of the filaments.

The whole mucous surface of the alimentary canal, as well as that of the air passages, was intensely inflamed, and at some points very much softened. This latter condition was most conspicuous in the mucous membrane of the stomach. The inflammation was a consequence of the small-pox, and had no connection with the disease under which the individual had been labouring previously.

Remarks.—This case is particularly interesting, both on account of the organic lesions it presented, and the functional disturbance to which they give origin during the life of the patient. The hepatization of the lower part of the lungs was well calculated to occasion considerable embarrassment of respiration, yet it is questionable if it should be regarded as the primary source of the asthmatic symptoms. It is far more probable, that the latter were consecutive upon other pathological conditions;—as the aneurism of the aorta, its encroachments upon the trachea, and, especially, the impairment of innervation occasioned by the morbid affection of the pneumogastric and phrenic nerves. Numerous cases have been reported, in which violent asthmatic symptoms were induced by various lesions of these nerves, and the readers of the first series of this journal will remember, that in a paper we published on Asthma, in the second number, p. 312, we referred to several such instances.

As regards the aneurism of the aorta, its existence was not suspected during the life of the individual, and from its peculiar character and the nature of its relations with the surrounding parts, it is highly probable that if a suspicion of that kind had existed, the disease could not have been detected by any of our means of diagnosis. Indeed, it is exceedingly different under most circumstances, to distinguish aneurisms of the aorta from other affections of the thoracic organs, and it is chiefly where the disease has obtained a considerable size, that any positive conclusions can be formed. Where it is small, as in the present case, we are inclined to think it would seldom be possible, by the ordinary rational or physical signs, to detect its existence. The seventh number of the American Cyclopedia of Practical Medicine and Surgery, just published, contains an article on the pathology of the aorta, in which we have attempted to collect all the most important information relative to the characters and diagnosis of aneurism of that vessel, and to that we shall refer the reader for further information on the subject.

ARTICLE III.

Case of Diabetes Mellitus. By Richard Wilmot Hall, M. D. Professor of Obstetrics in the University of Maryland.

On the 22d of April, 1831, I was requested by Dr. E. Perkins, of this city, to visit with him Robert Kinnier, a lad about seventeen years of age, labouring under diabetes. On reference to my notes, I find the details of the same as here given. Our patient appeared to be somewhat emaciated; had a sallow complexion, with those appearances of general disorder which often follow our autumnal remittent fevers. On inquiry I learned that he had suffered by an attack of this disease during the preceding autumn, while engaged with his father on the line of the Baltimore and Ohio rail road; and after the more severe symptoms of attack had passed away, a remittent fever with irregular paroxysms had continued to manifest itself occasionally. At the time we saw him, these paroxysms were interrupted; but he still remained languid, incapable of active exercise, and much depressed in mind. He sometimes walked slowly in the open air, from which he experienced fatigue. His liver seemed to perform its functions slowly, but there was no tenderness or enlargement from which might be inferred a serious disturbance of this organ. He had occasionally a very slight cough. The tongue was whitish and his skin cool. The perspiration did not appear to be materially changed from the standard of health. We requested that the urine should be retained for our examination, and the quantity discharged between the hours of nine o'clock in the evening and six of the following morning, (nine hours) was found by measurement to be more than one gallon—of a pale straw colour, and sweet to the taste,—pulse 84—appetite irregular—digestion also imperfect. He laboured under no important pulmonary disturbance, and the alvine dejections evinced the presence of biliary matter.

Tonics were first directed. S. quinine, phosphas. ferri, &c. were freely used without apparent benefit for some time. No vegetable preparation, except bread was allowed to be taken. His diet was directed to be purely *animal* with the foregoing exception. Still finding that his diabetic sysmptoms were not materially altered, we prescribed the tinc. meloe. vesicat. m. xx. ter. die. directing an increase of five to ten drops each dose, unless strangury should have been perceived.

On the 19th of May, we found his pulse 84—one pint of urine discharged during the night—bread omitted and diet altogether animal. It may be remarked that he relinquished the use of bread with great reluctance,—occasionally obtained it by stealth, but acknowledged that it always increased the flow of urine. He then concurred in the propriety of the prohibition, and abstained from its use. On this day he was taking 270 drops of the tincture thrice a day—tongue more natural—urine less—bowels more regular,—directed to increase the tincture. He sleeps more comfortably during the night.

On the ninth of June, dose of tincture four hundred drops, which produced a slight strangury—bowels regular and fæces natural in appearance—urine last night ℥ iv.—diminished the quantity of the tincture—pulse 84.

12th June. Takes 350 drops—tongue more natural, pulse 90 and soft—appetite and digestion improved—so also his general appearance. After this period he gradually increased the amount of the tincture to four hundred drops each dose, without strangury and with manifest advantage. He now was enabled to take exercise in the open air, and his strength was increasing daily.

On the 19th June, he applied to the apothecary for a fresh supply of the tincture. A small quantity remained in the bottle from which he had previously been supplied, and in taking it down from the position which it occupied, the fluid was agitated, and thus suspended much of the fine particles of the cantharides. Of this turbid fluid he took in the morning 425 drops, estimated to be double the strength of the pure tincture. Pain of the kidneys, distressing strangury, and urine slightly tinged with blood, followed. When called to visit him, I found his pulse 90 per minute, voluminous and active. The warm bath was forthwith directed—m. 60, Tr. opii. with ℥ i. ol. ricini were given with mucilaginous drinks. He was soon relieved, and readily evacuated the bladder. The quantity of fluid was small. 20th June, pulse 90—quite composed—free from pain, and strangury; urine natural, and moderate in quantity. Directed the tincture to be omitted. No morbid change, or increase in the quantity of urine was perceived after this. On the 23d of June, he had a slight paroxysm of remittent, which was speedily interrupted by the use of S. quinine. Pulse 80 on the 26th, and no evidence of diabetes remaining. He soon regained his strength, and entered on an active course of duty, as a grocer, in this city.

Baltimore, May 22, 1835.

SELECTED PAPERS.

ARTICLE I.

On the Employment of Sheet Lead as a Dressing to promote the Cicatrization of Wounds and Ulcers. By REVEILLE-PARISE.

THE method of dressing with sheet lead, appears to me much better adapted to effect the object proposed than the ordinary means. The plan adopted is, to cover the wound, already in a condition to heal, with a piece of sheet lead, of an extent and thickness to be determined by the size of the diseased surface, and other circumstances to be mentioned presently. It should be properly confined by means of a compress and bandage, or by strips of adhesive plaister, when the bandage alone is not sufficient. There is no species of dressings more simple, expeditious, comfortable and convenient than this. The softness and pliability of the lead allow it to adapt itself readily to the shape of the parts, while the same properties render it quite as easy to cut it of the proper shape and dimensions, as an ordinary piece of lint, and at the same time make its application exceedingly easy. That the metal used in this way is innocuous, we think will not admit a doubt, since the protoxide of lead, or litharge, has been long employed for the purpose of cicatrizing wounds and ulcers. It must not be inferred, however, that the sheet lead, like these substances, acts in virtue of any specific properties; its operation is purely mechanical. That this is the case, is evident from the fact, that I have obtained the same effects from the employment of plates of tin, silver and gold. The ductility of the lead, however, and its cheapness give it the preference.

An enumeration of all the advantages of this method of dressing, will suffice to shew that it cannot be necessary to resort to unguents. What in effect can such applications accomplish? The object is not to calm irritation and promote suppuration, but to obtain cicatrization. As the adherence of the borders of the wound is not to be dreaded, applications of unguents and cerates are altogether useless. The non-adherence of the dressings to the edges, and to the diseased surface, is an important advantage; because there is no pain experienced in the removal of the dressings; the newly formed cicatrix is not liable to be torn up, and the wound is kept clean and free from crusts and particles of ointment and charpie, which are apt to adhere to it when other dressings are employed.

I shall not swell these observations by a detail of individual cases; a few examples, however, may be cited in order to illustrate the general precepts. M. de S. in descending a stairs, received a slight wound in the heel, which refused to cicatrize. The application of ointments and plaisters increased the irritation and swelling, Fine charpie, at first dry, afterwards endued with cerate, adhered to the surface, and even produced greater aggravation than the other dressings. At this juncture I was called. A piece of sheet lead was confined upon the part by adhesive strips, and the ulcer cicatrized in a few days.

These dressings can be applied with exceeding ease and promptitude, and they need not be so often repeated as those in common use; since they are not attended with that heat and humidity of the wound so favourable to decomposition, nor with itching irritation so apt to be excited by unctuous substances. It is easy, therefore, to conceive, how by this procedure the healing process will be promoted, there being nothing to interrupt its progress. The operations of nature, when not thwarted in their tendency, and when aided by the co-operation of art, set aside the obstacles to the healing process, and advance steadily in the accomplishment of the cicatrization of ulcerated surfaces. These, powers are never more clearly displayed than when the lead dressings are employed.

To these advantages may be added another: in the employment of the plates of lead, those formidable infections are never to be dreaded, which sometimes take place in using old and inferior charpie. Economy is likewise a consideration of some weight, the more especially, as the price of the best charpie is daily increasing, and even at present, it is a source of such heavy expense to large establishments, that attempts have been made to diminish this heavy expenditure. The means which I indicate is as simple as it is effectual. A single plate of lead, if not too thin, will not only serve for the entire cicatrization of one ulcer, but may be afterwards employed on others,—the only precaution necessary being, to cleanse it carefully, and slightly polish its surface.

These are the advantages of the mode of dressing ulcers which I propose to substitute for that in common use. They have been exemplified by the numerous applications I have made of the procedure in question, as well as by the experience of others, who since the publication of my first memoir have adopted it. So that theory and experience in this particular, are in full accordance with each other.

At the time of my first publication, some surgeons, supposing that the leaden plates were only proposed for the cure of ulcers, did not resort to them for other purposes, and consequently obtained but partial or no success. Such was not my intention. My object was to shew, that wounds and ulcers in the way to cicatrize; viz: those which are wide, superficial, red, in a state of free granulation, covered with a fibrino-purulent secretion, and surrounded with a deep rose-coloured areola, should be dressed and cicatrized by the application of plates of lead. It is only necessary to remove the dressings every two or three days, according to the abundance of the secretions.

On the other hand, when the wound is deep and presents no disposition to heal—when there is pain, profuse suppuration, especially if kept up by any peculiar virus, and when it is judged necessary to resort to local applications, as cataplasms, I question whether the method in question will prove successful: such at least is the result of my own experience. Nevertheless, it should be employed as soon as these obstacles are removed, and the part manifests a tendency to cicatrize. Notwithstanding the species of extension presented by many wounds, there is reason to believe that this plan of dressing may be employed in a majority of wounds. I may even subjoin, that there are cases, in which it will succeed in a manner somewhat dfferent from that expressed above. Thus in many abscesses and encysted tumours, after the contents have been evacuated by a small puncture and the application of a cup, if a tolerably thick plate of lead be applied to the surface, and confined by a proper bandage, the adhesion between the walls of the cavity may be obtained in a short time.

In all cases in which the diseased surface has been reduced to the condition of a simple wound, and the obstacles to cicatrization have been removed, the method proposed is superior to all others, and success is certain. It is nevertheless more particularly applicable to such as are superficial and present a great extent of surface, as is exemplified in burns. If they are slight, the plates may be resorted to immediately; but when they are profound, time should be allowed for the accompanying accidents, and the profuse suppuration to pass away. These rules attended to, they all heal promptly under the application of a simple plate of sheet lead, to be changed according to circumstances. The same may be remarked of certain blistered surfaces, in individuals of an irritable habit, and labouring under protracted diseases. Many practitioners have remarked, that such persons support with difficulty the application of charpie, adhesive strips, and plaisters spread with cerate, to the raw surface. Each dressing is attended with acute pain, the surface bleeds more or less freely, and in some cases, fever and wakefulness are the result of these painful dressings, which always retard the process of cicatrization. All these inconveniencies may be effectually obviated by the simple application of a piece a sheet lead.

This method of dressing is equally successful upon parts in which cicatrization is with difficulty accomplished; as the elbow, the crest of the tibia, the malleolus and the tendo achilles. Few surgeons have escaped the embarrassment experienced in healing ulcers of small extent upon these parts; by the new method they may by cicatrized promptly.

Dartrous ulcers, and indeed all dartrous and erysipelatous affections in a state of suppuration, cannot be healed by this method; but are ameliorated by it, when it is not found necessary to employ tonic applications, or when continuous medicated lotions are simultaneously used. Experience has demonstrated, that there are wounds with loss of muscular substance, which cannot be cicatrized by any means. The plates of lead, under such circumstances, have not appeared to me to be more successful; yet they can be applied with more convenience and promptitude than dressings of charpie. These advantages are greater than might be supposed in such wounds, which are thus covered with a kind of protection, capable of serving as a substitute for the natural integuments.

It is universally known, that extensive cicatrices become lacerated with extreme facility, and that they afterwards heal with difficulty, either on account of the feeble vitality of the part, or some other cause. Hence the disadvantages of dressings of charpie and cerate; each successive removal of them tending to destroy the newly formed cicatrix, and in this manner, to perpetuate the sore. These inconveniencies are removed by the lead, though the cure cannot be so soon accomplished as in other cases. Even when the new cicatrix has formed, it may be strengthened by the lead; and it rarely becomes torn a second time under this species of protection.

The advantages of this new mode of dressing, are fully signalized in wounds, ulcers, and erosions which take place in limbs affected with œdema or other species of engorgement. Experience has fully shewn the insufficiency and even danger of charpie and cerate dressings in such cases, and their inevitable tendency to aggravate the disease. It may be replied, perhaps, that if seconded by compression, they will prove successful; but to this it may be objected: 1st, That compression does not diminish the inconveniencies of the application of charpie and unguents to the wound. 2d, That this compression is not always practicable. 3d, That the lead dressings, instead of opposing any obstacle to the employment of this means, favours, on the contrary, the attainment of its good effects. My experience has abundantly proved the truth of this assertion. The following case affords conclusive evidence. The Baron L——, of an active temperament, but broken down by age and the labour of the cabinet, was attacked with a chronic enlargement of the liver, which ended in dropsy, and finally destroyed his life. During the course of this protracted disease, his legs became tumid, even before symptoms of serous infiltration were apparent; the skin became red, sensitive, preternaturally thin, and was affected with frequent excoriations, which terminated in ulcers difficult to heal. These effects were produced by the friction occasioned by fine thin stockings, and his legs were covered with ulcers, which added to the pain of his situation. The finest charpie, the freshest cerate, and the most soothing dressings, increased the mischief. Compression was also employed without success, and was so painful, that it could not be supported. I placed the legs in a horizontal position, covered the ulcers with a thin plate of lead, and confined it with a moderately tight bandage: the diseased surface was soon healed, and as other ulcers formed, they were treated in the same manner.

In some young children, blistered surfaces are very prone to ulcerate profoundly, and to increase in extent, in spite of all local applications. Fresh butter, cerate, goulard lotions, &c. often prove of no avail; but a simple plate of lead will often heal them in a short time. I was called to visit a child, to whose arm a blister had been applied for the relief of an attack of bronchitis. The blistered surface was so extensive, notwithstanding all the means that had been employed, that nearly the whole arm was excoriated. The child was also affected with acute pain, want of sleep, and extreme irritation. I covered the whole surface with a thin leaf of lead, which was removed next day, and a cure was speedily affected. It also often happens, that issues, and cauteries, after being established, cannot be sustained, on account of the preternatural irritation of the dermoid tissue, or some other inappreciable cause. The contour of the part is surrounded by an erysipelatous blush, which is augmented under the use of ivy leaves, cautery paper, and other means usually employed in such cases. The application of a thin plate of lead for a time more or less considerable, remedies all these difficulties. In confirmation of this assertion, I could cite numerous examples, did my limits permit.

As a dressing to ulcers, properly so called, the plates of lead can scarcely be employed, except on the score of economy, and not for the purpose of promoting cicatrization, as long as the ulcer is perpetuated by some special cause, either local or general, which must be first removed. Varicose ulcers are, perhaps, those in which this remedy promises most advantages, especially when aided by pressure. Sheet lead was employed successfully in these cases, by M. Marjolin, (Dict. de Med. Art. *Ulcere.*) By some practitioners, the method of Baynton, or the application of adhesive strips, is deemed preferable to the sheet lead. I would reply, 1st. That this last method, and the leaden plates are not employed under the same circumstances, and for the reasons enumerated above. 2d. That there are cases in which Baynton's method is impracticable; as for example, when a leg is much swollen and infiltrated, and at the same time ulcerated at several points,—also when the ulcer is seated upon any other part than the extremities.

The following are the rules I observe in the application of this method of dressing. I will suppose that one of the extremities has received a severe wound. After having examined its depth and extent, with the object of ascertaining that there is neither fracture nor dislocation, and removed all extraneous matter, should any exist, I attend to the disgorgement of the wound, either by suffering it to bleed freely for some time, by means of incisions, and especially by the repeated application of a cup with a piston attached. This latter procedure greatly favours union by the first intention, where it is practicable, and facilitates the healing of other wounds. The parts having been thoroughly disgorged, the subsequent inflammatory congestion should be combatted by the application of compresses dipped in cold water, or goulards lotion, either with or without the addition of laudanum, according to the intensity of the pain, and the susceptibility of the subject. When inflammation is fully developed, it only remains to moderate the organic excitation, and to counteract the local determination. All practitioners resort very properly, under such circumstances, to emollients in form of cataplasms, fomentations, embrocations, &c. which are continued until suppuration is established. This process was formerly divided into two periods: 1. *Preparative* suppuration, when the pus is serous and crude, to use the language of the times: 2. *Consolidating* suppuration. It would be better, perhaps, if this distinction were not neglected at the present day, since it is just, and is founded in fact. During the continuance of the first, I employ cataplasms, digestive pledgets, cerate, and other analogous means; but so soon as the second period arrives, I abandon the use of charpie, and all unctuous applications, thinking with Ledran, that it is not by medicaments introduced into a wound that it is cured, and that strictly speaking, all applications of charpie, or medicaments, should be regarded as a foreign body. It is under these circumstances that I resort to the sheet lead, according to the regulations above described, which I continue until the wound is completely cicatrized, and some time afterwards, with the view of furnishing a salutary degree of support. This dressing should only be removed every second, third, or fourth day, according to the abundance of the suppuration. When it is necessary to use pressure, the piece of lead may be a little thicker than ordinary, taking care not to have it so heavy as to occasion fatigue by its weight. Should the granulations become exuberant or spongy, and the surface of the sore remain stationary, the ordinary means must be employed.

I could cite the testimony of many surgeons in favour of this method of dressing ulcerated surfaces, but shall content myself with that of M. Yvan, surgeon in chief of the *Hotel des Invalides.* He not only employed the sheet lead dressings with success in the cases indicated by me, but likewise in the treatment of hospital gangrene.

[*Bulletin generale de Therapeutique.*

ARTICLE II.

Lecture on Hæmorrhoids. By Sir B. C. Brodie, Bart.

In the present lecture, I purpose to make some observations on the disease which we call piles, or hæmorrhoids.

A patient consults you, complaining of swelling, pain, and tenderness, in the neighbourhood of the anus: you examine the part, and find on its verge a number of tumours, about the size of the end of the thumb or finger, with broad bases, not very distinct from, but running one into the other, covered by the common integuments, and of a more or less purple appearance. If you cut into one of these tumours there is immediately a flow of venous blood, followed by a small quantity of arterial blood, such as might arise from a cut any where else. On making a section of the tumour, it presents to the eye the appearance of dilated and tortuous veins: in fact you cannot doubt that they are dilated veins; they are exactly like varicose veins of the leg. The tumours which I have described are situated below the sphincter muscle, and we call them *external piles.*

Another patient consults you, complaining also of a swelling at the anus, accompanied by pain and tenderness. You examine the part, and find a number of tumours of a different kind. These, too, have broad bases, and run one into the other, forming a circle, which projects below the anus. They are covered, not by the common integument, but by the mucous membrane of the rectum protruded from above the sphincter muscle. On making a section of one of these tumours there immediately flows venous blood, and arterial blood may flow afterwards. On looking at the divided surface, it is evident that the tumour was composed of a large tortuous vein. It is the accidental enlargement of these tumours which causes them to protrude externally; but they are formed above the sphincter muscles, and we call them internal piles, or hæmorrhoids.

I cannot doubt that piles are just what I have mentioned—dilated varicose veins. This is the common theory of their formation, and I certainly believe it to be correct. If you cut through piles, and dissect them, as it were, in the living person, you see that they are made of dilated veins; and if you dissect piles in the dead body, you find them just the same. If you insert the pipe of a syringe into the trunk of the inferior mesenteric vein of a person who had laboured under piles, the piles become all dilated largely with the injection. I know that some have held a different opinion concerning the formation of these tumours, and have supposed that they were not composed of dilated veins: but I apprehend that they have bsen misled by examining the parts in the advanced stage of the disease. If you wish to know what any disease really is, you must make your dissection of it in its origin; for in its progress, one morbid change is followed by another, and when a disease has lasted for a considerable time, you find various appearances in addition to those which existed in the first instance.

Those ultimate changes which take place in cases of piles, are exactly similar to those which occur in connection with varicose veins of the leg. You know that at first the veins of the leg are simply varicose, or dilated; that at last they become inflamed; that lymph is deposited in the cellular membrane surrounding them, and that at last there is a great mass of induration, in which the diseased blood-vessels are, as it were, imbedded. So it is with the veins of the anus and rectum. At first they become simply dilated; repeated attacks of inflammation cause an effusion of lymph into the adjacent cellular texture, and then the pile appears like a solid tumour; in the centre of which, however, you still find the dilated vein in which the disease originated.

I have divided piles into internal and external; but, in fact, it is the same veins which are affected in both cases. The veins run on the inside of the sphincter muscle, and where the muscle compresses them there can be no dilatation of them: it is a bandage constantly operating to prevent the dilatation in this particular part; but above and below the muscle the veins become dilated.

Whatever tends to obstruct the return of the blood from the inferior mesenteric vein will lay the foundation of piles. It is said that persons with diseased liver are liable to piles; and no doubt they are likely to be so more than others, because the hard and indurated mass of a diseased liver interferes somewhat with the return of the blood from the abdominal viscera through the *vena portæ.* However, a great many persons have piles who have not diseased liver. The most common cause of piles is obstinate costiveness. Where the colon becomes loaded, and especially the sigmoid flexure, with hardened fæces, there is a pressure on the trunk of the inferior mesenteric vein, which interrupts, in some degree, the return of blood from its branches. Women, during pregnancy, are liable to piles, the pressure of the gravid uterus producing the same effect as an accumulation of fæces; and women who have borne children many times are liable to piles ever afterwards, the veins which have been repeatedly kept in a state of dilatation not becoming again permanently contracted afterwards. Piles are more frequent in the upper classes of society than in the lower. You know that in hospital practice you see comparatively few cases of piles, but out of it, I must say that they form a very large proportion of the cases that come under my care. The reason of this difference is to be found in the different mode of life in the various classes of society. The better classes take but little exercise, and they are more liable to constipated bowels than the lower classes, who take much exercise and live a great deal in the open air. There is a notion that those who take aloetic purgatives are more liable to piles than others; but I must acknowledge that I am not quite satisfied of the fact. I have a respect for all popular notions believing that there is in general some truth at the bottom; and I will not say, as every body thinks so, that aloes will not make people liable to piles, but I am sure they do not produce that effect to the extent that is supposed; and I could not be certain, from my own observation, that they are productive of it at all. The fact is, that those who are habitually taking aloetic purgatives are persons with costive bowels, who, as I have already mentioned, are just the individuals most liable to this disease.

The symptoms which are produced by piles differ accordingly as they are internal or external; and also according to the stage of the disease. In the origin of the disease, when the piles exist only in a slight degree, the patient complains of a sense of heat and itching about the anus; and every now and then, when he is costive, the external piles becomes a little swollen and tender; the internal piles become swollen also, so as to fill up the cavity of the gut, thus exciting a sensation as though a stick, or some other foreign body, were lodged in it. The external piles sometimes inflame, swell, and become tender, so that the patient can scarcely bear them to be touched, and cannot walk without difficulty. They may continue thus inflamed for some considerable time, and then the inflammation may subside; the piles generally returning to the condition in which they were before the attack of inflammation came on, but not always.

Sometimes an abscess forms in one of these inflamed external piles, and bursts externally. The abscess may be troublesome to heal, but when it is healed it is found that the cavity of the vein is obliterated, and that it is, in fact, cured. Such an abscess as I have just mentioned must be distinguished from a *fistula in ano;* from which, indeed, it is essentially different, as I shall explain more fully hereafter. Sometimes, when an external pile is inflamed, the blood in it becomes coagulated, and it is then hard to the touch. If under these circumstances you slit open the pile with a lancet, there comes out a mass of hard coagulum, perhaps as large as a pea or a horse-bean; the cavity inflames, suppurates, and granulates; the same thing happens as though suppuration had taken place in the first instance, and the pile is obliterated. But if you do not slit open the pile, and leave the disease to take its own course, the cavity being blocked up by the coagulum, the vein becomes obliterated, after which the coagulum is gradually absorbed, and the pile is cured; that which was a pile before being now converted into a flap of skin. Just the same circumstance happens with varicose veins of the leg, where sometimes there is a natural cure, in consequence of the coagulation of blood in the dilated vessels. Sometimes, when a pile is thus distended, with coagulated blood, the skin becomes so much attenuated that it gives way in some one point, and the blood being gradually squeezed out, suppuration probably takes place; and the case proceeds just the same as if you had opened the pile with a lancet. It is very common for external piles to undergo a process of natural cure in one or other of the ways which I have now described; and by examining the parts, you may ascertain whether these changes have taken place, as every one of them, after the cure is effected, becomes at last converted into a fold or flap of skin. Thus, if you see a patient with three or four loose folds of skin at the margin of the anus, you may know that these were formerly piles. At first these folds of skin are large, loose, and pendulous, but gradually they beoome contracted, till at last they give no sort of inconvenience to the patient.

Internal piles, as I have already told you, in slight cases produce heat and itching; and when inflamed, they give rise to a sensation as if there were some foreign body lodged in the rectum. Sometimes they are so much distended, that the gut is incapable of containing them, and they are pushed out through the anus, forming a tumour, which, while it projects externally, is still covered by the mucous membrane of the bowel. When internal piles are large, they always protrude when the patient goes to the water-closet, and afterwards go up spontaneously. If they be larger still, after going to the water-closet they will not return spontaneously, but the patient is under the necessity of pushing them back with his hand. If they be larger still, they come down at other times, especially when the patient is walking, so that he cannot well take any exercise. Sometimes you see one small internal pile permanently protruded, forming a red vascular tumour of the size of the extremity of your little finger. This is painful, and otherwise very troublesome, to the patient, by keeping up a great and constant discharge of mucus. Sometimes there is a large protrusion of internal piles for several days, then they gradually become reduced in size, and go back into their proper place above the sphincter muscle. In short, with respect to the protrusion of internal piles, there are all possible varieties of circumstances: they may protrude occasionally, for a short time, or for a long period; they may be constantly protruded; or there may be a large protrusion at one time, and a small constant protrusion besides. Whenever the protrusion, be it large or small, takes place, there is an abundant secretion of mucus from the rectum; the piles themselves are sore to the touch; the surface is red and vascular; and if you put your hand upon them, you find that you can diminish their size by pressure, but the moment you take off the pressure, they are as large as ever.

In the state which I have now described, internal piles are not unfrequently confounded with *prolapsus of the rectum*—nay, in general, patients, and even most medical men, describe the disease under this appellation: but the term is improperly employed. There is prolapsus of the rectum independently of piles: the disease may even originate in piles, and yet, when once established, it is entirely different from them. In a genuine case of prolapsus of the rectum, the gut itself comes down, sometimes several inches in length. When internal piles protrude, of course that portion of the mucous membrane of the bowels covering them is pushed down, because they could not come down without it; but you will easily understand that this is entirely a different matter from the whole length of the rectum, or even a large portion of it, coming down of itself. The distinction between these two diseases is very important, and you should be careful not to confound them together.

Internal piles, in the state which I have just described, give the patient a great deal of inconvenience; besides which, they are liable to irritate the neighbouring parts—sometimes producing the frequent desire to make water, at other times inducing spasm in the muscles which surround the membranous part of the urethra, so as to cause complete retention of urine. Internal piles in this state are liable to discharge a large quantity of blood; and hence it is that they have their name of *hæmorrhoids.* You might suppose that the blood was venous, but it is arterial. Piles do not bleed in the early but in the advanced stage of the disease, when there is an increased determination of blood not only to the veins, but to the mucous membrane and cellular texture by which they are surrounded.

The quantity of blood lost from internal piles varies in different cases: sometimes there is a little tinge of blood when the patient goes to the water-closet, and nothing more; at other times a large quantity is lost every time he goes there, so that as much as six or eight ounces are voided daily; and then there are the usual consequences of hæmorrhage —the patient is weak, his countenance blanched, and his appetite voracious. I have known cases in which the patient was in danger of becoming dropsical, in consequence of the profuse loss of blood going on for a considerable time.

Inflammation sometimes takes place in internal piles, and ends in suppuration. The patient complains of a little discharge of matter from the anus, and you find, in addition to the mucus, that there is a little yellow stain of pus on his linen; and at first you would suppose there was a common abscess about the rectum, such as produces a *fistula in ano.* But if you introduce your finger into the rectum, you feel a small orifice in one of the internal piles, and if you pass a probe with a light hand, it goes to the bottom of the abscess, which is perhaps a quarter of an inch in depth, or thereabout. The parietes of the abscess, however, are very thin and weak, easily broken down, and if the probe be not lightly introduced, it will run through them into the loose cellular texture external to the mucous membrane. The cellular texture also is very loose and yielding, offering scarcely any resistance to the probe, so that it will run in every direction; and hence it is that I have sometimes known a small abscess or an internal pile to have been mistaken for a very long sinus. You ought to be very careful not to fall into this error, which you might easily do—nay, in all probability would do—in the first case of the kind that occurred to you, if I did not give you this caution.

I have mentioned that there is sometimes a natural cure of external piles; and I will now state how a natural cure of internal piles may take place also. Where piles of a large size protrude, completely filling up the orifice of the anus, the sphincter muscle is contracted upon them like a ligature, and causes them to become more swollen than when they were first protruded; just as a ligature on the arm makes the veins of the fore-arm and hand turgid previously to venesection. But the piles may be larger still; the sphincter muscle may contract more powerfully upon them; and then the pressure not only interferes with the return of the venous blood from the pile, but prevents the entrance of arterial blood into it. It acts as a ligature acts in a surgical operation—on a polypus of the uterus, for example. There is not a sufficient circulation in the protruded piles for them to retain their vitality; mortification takes place, sloughing follows, and thus the piles are destroyed. I have known several cases cured in this manner, and there is little or no danger in the process. I have sometimes known medical men to be alarmed at a case of this kind, confounding it with those of mortification from other causes; but the alarm is without foundation. The late Dr. Pearson, who was for a very long period of time physician to this hospital, was the physician and friend of the celebrated Mr. Horne Tooke. Many years ago, I was dining with Dr. Pearson, and after dinner he gave an account of Horne Tooke's illness. He said that he had long laboured under piles; that at last mortification had taken place; that there was no chance of his recovery; and he added, that he had that morning seen him for the last time. I remember that in the middle of this history there came a knock at the door, on which Dr. Pearson said, "Here is a messenger with an account of my poor friend's death." However, it was some other message; but by and by a messenger did arrive, saying that Horne Tooke was much the same, or a little better. It turned out, as I have been informed, that the piles sloughed off, and that from this time he never had any bad symptom. In fact, he was, if I have been rightly informed, cured of a disease which had been the misery of his life for many years preceding, and he lived for some years afterwards.

Treatment.—In considering the treatment of piles, we will first suppose that you are consulted when the disease is in its earliest stage. The patient complains of a sense of heat and itching about the anus, and perhaps there is already a slight protrusion of the piles. You may cure him, in general, by a very simple process. Keep the bowels gently open; take care that he is not costive on the one hand, or violently purged on the other. The best aperient for this case is the following:—One ounce and a half of *confectio sennæ*, half an ounce of *sulphur precipitatum*, and then *mel rosæ*, as much as is necessary to make an electuary, and let the patient take about a tea spoonful, or what he finds necessary, of this, every evening. This is all that is wanted in many cases; but at the same time he should avoid drinking much wine; and if he be of sedentary habits, he should, if possible, alter them, and take exercise. If this should not relieve him, in addition to what I have just mentioned, let him inject half a pint of cold water, fresh from the pump, as a lavement, every morning after breakfast, and keep it up as long as he can. This will give him immediate comfort, but it requires to be persevered in for many months; and perseverance in this plan of treatment will sometimes make a cure even of very bad cases of piles. You may, if you please, add something to make the water more astringent, as alum, the *tinctura ferri muriatis*, or the patient may use cold lime water. A friend of mine, a practitioner at this end of the town, informed me that for many years he had used cold lime water in cases of piles, with the best result; and I have employed it in several instances lately, in which I think it has been serviceable.

There is a medicine that is very often useful in those cases where these simple expedients fail, namely, the *confectio piperis composita*, which is similar to what was once very celebrated as Ward's paste. It is composed of black pepper, fennel seeds, elecampane, and honey; and the dose is a piece of the size of a nutmeg three times a day. It is like eating coarse gingerbread; it may be a little disagreeable to be taken, but still it may be taken easily enough; and the patient must persevere in its use for a considerable time. Very severe cases of piles are sometimes cured by it. A lady came to me with one of the worst cases of this disease that I ever saw: the piles were so large, and protruded so constantly, that I did not think there was any chance of curing her, except by the operation to be hereafter described, and I advised her to submit to it. She said the piles made her miserable, and she should be very glad to be cured on any terms; but she was compelled to pay a visit in the country, which would render it necessary to delay it for a month. I thought the delay for a month could not hurt her, and under these circumstances I recommended her to give Ward's paste a trial, and see what it would do for her. I heard nothing more of her for six or eight weeks, when she came back, and said she was happy to inform me that she had taken the paste regularly, and was now quite well. It is of no use to take this remedy for a week, a fortnight, or a month; it must be persevered in for two, three, or four months.

How does the Ward's paste operate? I know a case in which a patient, labouring under stricture of the rectum, had indiscreetly taken an immense quantity of Ward's paste, and in which the colon was found quite full of it after death. It is evident, that, except any small portion which may be digested, the Ward's paste passes into the colon, and that it must become blended with the fæces; and I suspect that thus coming in contact with the piles, it acts upon them as a local application; much as *vinum opii* would act upon the vessels of the conjunctiva in chronic ophthalmia.

In confirmation of this view of the *modus operandi* of Ward's paste, I may mention an observation of the late Sir Everard Home. He had a patient labouring under piles, and he recommended him to take Ward's paste. The patient, little thinking that something put into the stomach was to cure disease in the rectum, crammed as much as he could bear of it up the rectum. I dare say it gave him a great deal of inconvenience, but, as Sir Everard Home reported, it cured him; and Sir Everard said that since then he had used it as a local application in some other cases, with manifest advantage.

I mentioned that a patient with stricture of the rectum, had indiscreetly taken a large quantity of Ward's paste, and that the remains of it were found distending the colon after death. I recall your attention to this circumstance now, because it will serve to impress upon your minds, the necessity of always giving the patient some gentle aperient, occasionally, at the time that the Ward's paste is being taken. This is not the only medicine of this description which may be used in cases of piles. Cubebs pepper, a scruple three times a day, may be given with advantage; it operates, I suppose, in the same manner as Ward's paste. In some cases of this disease, where there is a great deal of irritation, the patient will derive benefit from copaiva combined with caustic alkali; half a drachm of balsam of copaiva, with fifteen drops of *liquor potassæ*, may be rubbed down with two or three drachms of mucilage and cinnamon water, and taken three times a day. This answers a very good purpose, soothing the piles, and keeping the bowels gently open at the same time.

If you are called to a patient when the external piles are inflamed and swollen, your best way is to make him remain quiet in the horizontal posture, which takes the weight of the column of blood off the piles. You may, if you please, apply leeches in the neighbourhood, but not on the piles themselves, for the leech-bites will cause them to become inflamed, and to fester; or, if the piles be much distended, you may puncture them with a needle. Acupuncture, on the whole, relieves the patient more than the application of leeches; and there are these advantages in it, that the puncture of the needle does not cause the piles to fester, and that the relief is immediate. By puncturing them in several places you let out a large quantity of venous blood, and the benefit arising from this is great. Besides this, you may keep a piece of rag constantly applied to the part, wetted with some cooling lotion; and the patient should take some gentle aperient; active purgatives being avoided.

When internal piles are inflamed, swollen, and protruded, you should try first of all to push them back into the gut. Take a cambric handkerchief, or a soft old linen rag, squeeze out the blood from the piles, and, if you can return them into the bowel, it is so much the better; it will relieve the patient very considerably. But if you cannot push them up, or if when pushed up they immediately come down again, you should then keep the parts wet with a rag bathed with a cooling lotion; let the patient remain in the horizontal posture, and keep the bowels gently open, without purging. Here also, as in the case of external piles, the patient will derive much benefit from acupuncture in several places. Punctures made with a needle, neither on this or any other occasion, so far as I know, occasion inflammation or any other inconvenience; they evacuate the blood, relieve the tension and swelling, and do a great deal of good without any harm.

The observations which I have now made relate to the treatment of piles under ordinary circumstances. In more aggravated forms of the disease the patient must be relieved by other methods; but I must defer the consideration of the operation for piles till the next lecture.

[*Lond. Med. Gazette, March,* 1835.

REVIEW.

Admonere voluimus, non mordere.——
Sunt bona; sunt quædam mediocria, sunt mala plura.

Application of the Physiological Doctrine to Surgery. By L. J. BEGIN, M.D. Ex-Surgeon Aid-Major to the Military Hospital of Instruction of Metz, &c. &c. *Translated from the French.* By WM. SIMS REYNOLDS, M. D. p.p. xxvi. and 227. Charleston, 1835.

It may be affirmed with truth, that no work ever contributed so much to the improvement of surgical pathology, as John Hunter's treatise on the blood and inflammation. It completely revolutionized the science, rescued surgery from the degraded state in which it had been previously involved, and in creating for it a new destiny, laid the foundation for the immense improvements it has undergone in more modern times. But although the labours of Hunter achieved so much, they could not accomplish every thing. No one individual, perhaps, at that period, could have enriched science with so valuable a treasure; but the knowledge of minute structure, and of the laws of the living economy, was then too limited and imperfect, to conduct to an acquaintance with those important general principles which, since the time of Bichat, have so greatly fertilized every branch of medical science. What it was not allowed John Hunter to accomplish, therefore, remained to be achieved under a more favourable concurrence of circumstances; and although the work is not yet completed, important additions have been made to it within the last thirty years, and in these contributions, no class of men have borne a more conspicuous part, than those who have committed the egregious sin, of arrogating to themselves the title of physicians of the *physiological school of medicine.* With Broussais at their head, they have not hesitated to assail the very strong holds of previous doctrines, and although, in the fervour of their zeal for the subversion of pre-existing errors, they have themselves promulgated many others, it must be confessed, that they have at the same time established many important truths, developed new principles, and made additions to medical science, which must entitle them to the lasting gratitude of its cultivators. Medical pathology and therapeutics have been most enriched by their labours; but surgical pathology has likewise experienced their ameliorating influence. They have established certain broad and general principles, which are equally applicable to both departments of the healing art, and no one has manifested more skill and ability in rendering them contributive to the improvement of surgery, than the author of the treatise now under consideration.

Some idea may be formed of the plan and objects proposed by M. Begin, in the present treatise, by the following exposition of the order he has adopted in the disposition of his materials.

"It appears to me agreeable to divide surgical diseases into two grand classes, the one to comprehend the acute lesions, and the other the chronic affections. Among the first, I arrange those diseases which appear rapidly, and which have a tendency to run their course in a very short time: such are wounds, fractures, contusions, and violent inflammations. It belongs less to me to examine those lesions, in relation to their etiology, and the mechanical operations which they require, than with respect to the local and general affections of which they are the source, the influence which they exert upon the principal viscera, and the medicinal remedies, internal or external, by which they may be counteracted. Such are the subjects which are treated of, in the first five chapters of the work. I have afterwards collected under the title of chronic surgical lesions, all those which succeeding to the former, or which developed by other causes, have a prolonged, and as it were, indefinite existence. I have endeavoured to trace back as far as the vital lesion which provokes and keeps up the most important affections of this kind, in order to establish on solid foundations, both the curative indications which they present, and the treatment the most proper to combat them. After having examined the sympathetic influence exercised by chronic surgical diseases, whether on the whole of the animal organization, or especially on different parts of the body, it has been easy for me to point out the means that should be employed to remove these secondary affections, and show in what should consist, the preparation which the patients should undergo before performing great operations. But having spoken in the first chapter, of the effects of these operations themselves, and exposed the treatment which those operated upon should claim, the sufficiently extended circle of ideas which I proposed to myself to develope, was finished."

The first chapter is appropriated to the consideration of the "local affections produced by acute surgical lesions." It embraces the general discussion of the laws of inflammation and its consequences. It supposes the previous action of an irritating cause upon the tissues which are its seat, which determines the acceleration of the local organic movements or irritation. The irritation determines an afflux of fluids, engorgement of the capillaries, the passage of the red globules of the blood into the canals which do not admit them in the normal state,—swelling, redness, heat and pain. If the acceleration be of short duration, the fluids are not yet combined with the organic structure, and the former can be removed by soaking and washing after death. On the contrary, where it has continued some time, the blood globules combine with the parenchyma of the part affected, so as to constitute an integral portion of it, and cannot be detached from it by mechanical means. The first condition has been denominated congestion: the second, inflammation—a distinction to which too much importance should not be attached.

Irritations developed in a part, may terminate, in health, in the destruction and death of the part, or in the slow degeneration and complete disorganization of the affected tissues. The first result may be accomplished by the subsidence of the irritation, or by the secretion of a fluid, and the development of suppuration. The second effect takes place, because the parts are unable to sustain the excess of action. The last is produced by a modification of nutrition, which changes the physical character of the parenchyma, and developes masses within it, possessing various heterogeneous properties.

Wounds inflicted upon the living structures may produce any or all of these effects; hence the doctrines of irritation and inflammation furnish the proper guide in the treatment of all such affections.

In the second chapter, which treats of "the local treatment of acute surgical diseases," we find some very just reflections. The author, speaking of general blood-letting, local applications, anodynes, and resolutives, represents that they prove salutary by diminishing the quantity of blood, which becomes a powerful secondary cause of augmenting pain and irritation, when it penetrates in abundance parts already stimulated; by rendering this fluid more serous, and suspending the introduction of the nutritive materials which serve to regenerate it; thus rendering it less exciting and hurtful to the irritated organs, than it would be, if rich in nutritive materials: and, lastly, by relaxing the whole organization, diminishing the stimulation of the principal viscera, rendering the sympathies less active, and preventing the development of those serious affections, of which they are the source—p. 37.

He asks the question, if the local bleedings which are so useful in the more advanced stages, have the same efficacy in the first moments which follow the infliction of the wound, and before inflammatory action has commenced? Although no preternatural engorgement yet exists, he thinks that leeches applied to the part tend to prevent local congestion, that their bites allow the blood to flow away in proportion as it is determined to the part by irritation, and in this manner prevent the capillary system from becoming engorged to any extent, and occasion "the phlogosis to miscarry, in a manner, before birth." These means, however, must not be abused. In simple and superficial affections, topical emollients and resolutives are all that are required. A weak solution of acetate of lead, or cold water, long continued, diminish directly the stimulation and pain of the injured parts. Compression is highly commended for its efficacy in preventing inflammatory fluxions, and diminishing their violence. It brings together the contused and distended parts, diminishes the capacity of the vessels, and lessens the liability to inflammation. It should extend from the portion of the member most distant from the body, to above the wounded part. Topical applications of a solution of muriate of soda, wine, camphorated spirits, &c. are condemned. Cold water is considered the most simple and salutary means of this kind. It has been highly extolled by Lombard and Percy, and M. Begin remarks, that in gun-shot wounds of the hands, or in the neighbourhood of the articulations, he has employed it often, and always with success. The author admits the advantages of making incisions, with the object of dividing the aponeurosis surrounding members wounded with fire arms, or sharp pointed instruments.

Much stress is laid on the importance of watching, with the greatest vigilance, the development of inflammation after surgical operations, and meeting it by decisive antiphlogistic treatment. If, in spite of the rational employment of the means most strongly indicated, pain, redness, and swelling become intense in the wounded parts, recourse must be again had to sanguineous evacuations. But at this time, he thinks general bleedings are less suitable, than those which abstract blood directly from the affected capillaries. The former are only proper where the subject is strong and plethoric, and where the pulse is full, large, and jerking. Local bleedings empty and carry off the blood which tends to increase the stimulation, and keep the inflammation in proper bounds: they have been justly styled by M. Gama, "regulators of local inflammation."

To obtain the good effects of leeches, they should be applied to the affected part when the skin is not inflamed, or as near to it as possible After the first application, which should be proportionate to the violence and extent of the disease, it will be best to repeat a small number of them at short intervals. Used in this manner, they have been found to produce a more salutary effect, than when a great number are applied at each time. The author thinks, that the duration of the application ought to be prolonged, and that instead of putting on the whole number at once, only a part should be applied at first, and as soon as one fills and drops, another should be made to supply its place. To these means must be added fomentations, cataplasms, baths, abstinence from solid aliment and animal broths; the use of acidulated drinks, mucilaginous clysters, &c. Should all this not succeed, revulsives to the alimentary canal, by means of purgatives, or to the skin by blisters, must be called into requisition. Care must be taken, however, not to resort to these means until evacuations have produced a salutary disengorgement, and a great diminution of the violence of the inflammation.

These remarks are followed by some very valuable reflections, intended as an application of the principles detailed, to the prevention of the serious consequences which so often follow wounds and surgical operations upon particular parts, in which it is shewn, that the bad success often experienced under such circumstances, is altogether owing to a neglect of antiphlogistics, and that many cases generally supposed to require amputation, may be effectually cured by a properly directed antiphlogistic treatment. These remarks are highly valuable, and deserve to be meditated by every surgeon.

The third chapter considers "the sympathetic phenomena determined by acute surgical lesions."

All active irritations of the external parts determine more or less sympathetic disturbance in the functions of the principal viscera. All the organs, however, are not equally susceptible of the influence of these sympathetic irradiations. The brain, the heart, and the stomach, are those which feel them most promptly. The first receives through the nerves the impressions made on them, and reflects them towards the epigastric centre, especially towards the stomach and heart. This gives rise to symptoms of gastritis, acceleration of the pulse, &c. and the ordinary phenomena of fever. The character of the fever will vary, according to the organs that are most affected. In its most simple form, it will exhibit the phenomena of simple inflammatory fever, or as it is denominated when it is excited by the sympathetic influence of wounds, traumatic fever. This will generally be the case when the viscera are all in a healthy condition at the time the injury is inflicted. But if, on the contrary, any one of them should happen to be already labouring under preternatural irritation, the additional excitement occasioned by the wound will fall upon it, and the fever will be modified, by presenting a preponderance of those symptoms that are characteristic of irritation of that organ. Thus, if this organ be the liver, or the stomach, or both, there will be irritability of stomach, bilious vomiting, diarrhœa, yellow suffusion of the skin, and other peculiarities which belong to gastro-enteritis with implication of the hepatic function. If the individual indicate a proclivity to mucous secretions, or be subject to preternatural accumulations of suburral matter in the first passages, the gastro-enteritis will exhibit those modifications which constitute what is called mucous fever. Should the gastro-enteritis, under either of these forms, acquire greater intensity, either by the improper use of emetics, cathartics, bitters, stimulants, &c. the fever may be attended with adynamic symptoms. Finally, if the subject be nervous, very irritable, or possessed of great cerebral susceptibility, the brain and the membranes will participate in the irritation of the alimentary canal, and there will be aberration of sensibility, convulsions, delirium, sometimes melancholy,—in short, those perversions of function which characterize the ataxic state.

These principles form the very foundation of surgical pathology. Organic susceptibility determined by temperament, &c. is a fruitful source of the modifications of morbid phenomena excited by external irritation, and is often the occasion of the peculiarities of the fever developed by such causes. Another source of these modifications is to be found in the existence of a previous irritation in one or more organs, which constitute them, as it were, "new *foci* of vitality," by which the order of the sympathies are absolutely changed. In this way we explain the diversity of sufferings experienced by individuals from injuries as nearly as possible similar, both as regards kind and degree.

Under the fourth chapter, which discusses "the treatment of internal irritations complicating surgical affections," the author lays down four leading indications.

"1st. To diminish the violence of the local inflammation.

"2nd. To combat the previous irritation of the viscera.

"3rd. To remove from the wounded all those causes capable of provoking in them internal inflammations.

"4th. To combat the internal affections which complicate external injuries, when we have not been able to prevent their development."

These several indications must be fulfilled by the employment of the means already indicated, and by an attention to hygienic regulations. The abdominal organs and the brain, as previously remarked, are the parts which most frequently suffer, and which ever of them becomes the new focus of irritation, must command attention. A strict antiphlogistic regimen, general and local bleeding, refreshing and demulcent drinks, revulsives, &c. will be demanded in all, and are the proper means to meet the fourth indication. Evacuants may also be useful; but when gastro-enteritis is predominant, they must be employed with discretion. The author has made some judicious remarks, in this chapter, on the practicability of preventing the development of traumatic fever, by a timely resort to the application of leeches to the wound—by incisions, when there are fascial constrictions, and in all cases, by the use of the ordinary local antiphlogistic treatment. This subject is of great importance in the treatment of wounds, and much of the success of the surgeon will depend upon a due attendance to it in practice.

The fifth chapter treats of the "nervous affections determined by acute surgical diseases." Several important subjects are discussed under this head: as stupor, convulsions, tetanus, and traumatic delirium. We should be pleased to offer M. Begin's views relative to these topics, but cannot do so for want of space. We shall, however, give the following observations on traumatic delirium entire, as the subject is by many not well understood:

"Traumatic delirium commences sometimes by unconnected words, and incoherent movements without motive. In the greatest number of cases, it takes complete possession of the patient. Sometimes we observe an extreme loquacity, the eyes are red and protruding, the visage animated, the movements of the limbs and body disorderly. The remembrance of the wound or the operation is entirely lost; and the nervous action is in a measure perverted, and we observe the patients disturb the affected parts, throw far off the pieces of dressing, and bruise, and mangle their wounds without manifesting any pain. We have seen the wounded in this deplorable state, walk on their fractured limbs, and on the projecting extremities of fragments; others take a barbarous pleasure in dividing their intestines through the abdominal wounds. It is not rare, in the army, to see soldiers running over the wards thinking themselves still on the field of battle. The men who have wished to put themselves to death, tear off, with fury, the dressings which cover them, and renew their attempts at suicide. They are not sensible to the want of sleep; the patients remain vigilant as long as the excitement of their imagination is continued; the appetite is void; no excitation of the pulse; no febrile action is manifested; and the alvine evacuations take place with the same regularity as in the normal state.

The duration of this affection is very variable: sometimes it ceases in two or three hours; sometimes, on the contrary, it agitates the patients for three or four days. It terminates ordinarily all at once, either by the recovery, or death of the patient. In the first case, its cessation is announced by a general oppression, and by a sleep of eight, twelve, or a greater number of hours; after which, we find the patient in a calm state, his reason returned, sensible of the pains produced by his wounds, and asking to be dressed, likewise not having any remembrance of that which he has experienced. When death takes place, which is rare, it happens amidst the most violent agitation; we observe the forces then gradually diminish, the respiration become difficult, the pulse slow, and the vital actions become extinguished; the delirium, nevertheless, continues to the last moments. The bodies of patients who have sunk in this singular state, have not offered any constant affection, either of the brain, or the other viscera of the economy.

In considering both the temperament of individuals, who are especially exposed to traumatic delirium, and the cause likewise, and the symptoms of this affection, it becomes incontestable that it depends on a cerebral superexcitation. It constitutes a true temporary madness, produced on the one hand, by the moral commotion which the individual has experienced at the time of the wound, and on the other, by the sympathetic excitation which the wound determines in the central parts of the nervous system. Pathological physiology explains these phenomena in the most satisfactory manner: this is a new proof of the importance of its study to the surgeon.

We have combatted traumatic delirium with anodynes, antispasmodics, revulsives, and bleedings, pushed so far as to produce fainting, without these remedies having manifestly exercised any influence on the progress of this affection. M. Dupuytren, who has for a long time devoted the whole of his attention to the subject, has combatted it with the greatest success, by means of the laudanum of Sydenham, injected into the rectum, in the dose of eight or ten drops mixed in two or three ounces of mucilage. These lavements, which are easily prepared, are to be repeated three or four times in the interval of five or six hours: they suffice almost always to produce sleep and restore perfect tranquillity.*

The disease alluded to, consisting of a violent excitation of cerebral action without profound lesion of the tissue of the brain, narcotics ought to succeed better in its treatment than other soothing substances, and even bleedings.

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* Annuaire medico-chirurgical des hopitaux et hospices civils de Paris, tom. 1, p. 145.

I am, nevertheless, disposed to think, that leeches placed on the back of the neck, at the same time that we cover the head with ice, and place the feet in a hot bath, or envelope them with sinapisms, will succeed as well. But as the method which we have pointed out, and which is very simple in its application, procures almost constant success, we should not substitute for it another, before we have put the same in use.

However strange it may seem, it is very remarkable, that the preparations of opium have an action more rapid and more energetic when introduced into the rectum, than when they are administered by the mouth. I have had sufficiently frequent occasions for employing this medication, and I ordinarily employ a solution of gum opium for that purpose. Injected through the anus, this substance produces sleep, without determining the general excitation which we so often observe when it is made to come in contact with the stomach."

The remainder of M. Begin's work, consisting of four chapters, treats of the following subjects:—"Local alterations determined by chronic surgical diseases." "Local treatment of chronic surgical diseases." "Sympathetic phenomena produced by external chronic irritations." "Treatment of internal irritations which complicate chronic surgical diseases."

An analysis of these chapters could not fail to demonstrate the value of our author's labours in one of the most difficult and obscure parts of surgical pathology. We are constrained, however, to forego the pleasure of such an exposition. The simple enumeration of the titles will show the importance of the themes discussed, and we may subjoin, that they have been handled with ability.

Such, then, is M. Begin's physiological doctrine, applied to surgery. It is not, as the author remarks, "so much a treatise on surgery, as an introduction to the study of that important branch of the healing art." It is a kind of first step to the vestibule of surgical science, and to him who would enter to the riches within, we can safely recommend it as a most excellent guide, to conduct him over the first stage of his ingress. It is, in short, a useful elementary work for students of surgery, and whatever may be the objections to some of the tenets of physiological medicine, there can be few to the application of its truths to surgery, here attempted to be made.

Dr. Reynolds has rendered a service to the students of our country in translating the work into English, and we sincerely hope that they will manifest their appreciation of his labours, by giving the book an attentive perusal. The translation, as far as we can judge, without a copy of the original to compare, seems to be faithfully executed. There are a few obscurities, some want of precision and propriety in the style, a little too much of the circumlocution of the French idiom, and several typographical errors of but little importance. Still, we cheerfully recommend the work to students, and the junior members of the profession, as one which they may read with much advantage; and if we mistake not, some who have grown gray in the service, might consult its pages with benefit.

COLLECTANEA.

Apis vero ratio media est; quæ materiam ex floribus agri et horti elicit, sed tamen eam propria facultate vertit et digerit.—Nov. Org.

1. *Treatment of Tinea Capitis with Tan-Water.* By CHARLES LOUDON, M.D.—I wish to lay before the profession a mode of treating *tinea capitis,* which I have found to be more successful than any that I have seen tried. It is that of simply bathing the affected parts every two hours during the day, with the strongest *tan-water* which can be procured, and continuing this treatment for at least a month. Although this local application has answered the purpose without any constitutional treatment, I by no means wish to recommend it to the exclusion of internal alterative remedies, and sound diet; both of which will manifestly act as powerful auxiliaries in promoting the cure of the local ailment. The therapeutic principle in the tan-water is probably a gallate of lime, although, from the numerous ingredients presented by the analysis of the fluid, the sanative effect may be attributed to some of the other substances held in solution.—*London Lancet, February,* 1835.

2. *Cuprum Ammoniatum in St. Vitus' Dance.*—The favourable effect of this medicine on St. Vitus' dance, I had an opportunity to observe in the cases of some individuals, girls between ten and fifteen years old. I will here give the briefest possible account of the most interesting of those cases.

O. a healthy, though delicately built girl of ten years, got, without known cause, convulsion and spastic movements in the left arm, which in a few days extended themselves over the whole body, in so much, that the patient, uninterruptedly given up to an involuntary play of the muscles, was tossed about on her bed incessantly, in an agitated manner, that was horrible to behold. Delusions of sense did not take place: consciousness was present; yet the patient could not answer the questions asked her, for over the tongue also the control of the will had ceased. The pulse was frequent, hard, tight, the respiration hurried: all secretions and excretions pretty regular. In being lifted up, the patient exhibited a weightiness as of lead, only during sleep of many hours did rest come in.

As to some other patients, with whom chorea appeared as mere nervous derangement, I ordered to O. also cupr. amm. and though the enormous intensity and the extent of the evil sometimes went nigh to weaken my confidence in this remedy, yet from the short duration of the suffering, I had on the other hand every hope. The patient, therefore, took, &c.

℞. Cupri sulph. amm. gr. tria.
Solve in aquæ distill. unciâ unâ.

Daily three times, twelve drops to be taken in half a cup of oat-gruel; every three days each dose to be increased three drops.

The result exceeded my expectation, for hardly had the child taken two glasses of the drops, when she was almost without any ailment, but some weakness in the left arm. The convalescent now took the medicine only twice a day, and washed the as yet unserviceable arm with spirituous lotions. After eighteen grains of the medicine had been consumed, O. might be looked on as cured, and now, after six years, is still quite well. For the rest, as is usual in administered metalline remedies, the drops were increased until they excited illness, and thenceforward continually diminished.

[*Medicinische Zeitung.—Dublin Journal, March*, 1835.

3. *Treatment of Amenorrhœa by Irritation of the Mammæ.*—Some time since Messsrs. Patterson and London, two English surgeons, published cases to prove the efficacy of leeches and excitants applied to the breasts of women, in whom the menses had been suppressed for a greater or less length of time, in the *Journal Hebdomadaire,* for December last. M. Mondiere gives an account of three cases in which a similar treatment was successful.

Case 1.—A young girl, twenty-one years of age, had not menstruated for two years; the right breast was affected with a hard glandular engorgement of the size of a walnut; a physician had treated her for six months with various kinds of remedies, and by leeches to the vulva, without success.

M. Mondiere, consulted for the swelling of the breast, ordered the frequent application of leeches in small numbers, but as the patient would not consent, he substituted frictions with iodine, cataplasms, baths, &c. At the end of two months no change; he then advised repeated suction of the nipple; the breast soon became swollen, and the nipple red and extremely sensitive; the suction was laid aside, and after some time resumed, when the patient announced that her menses had reappeared.

Case 2.—Madeleine Richard, aged twenty-one years, of a feeble constitution, menstruated first at the age of nineteen. During the first year she was regular, and each period was accompanied by pains in the head, colic, lumbar pains, &c. At length the menses were suddenly suppressed by a fright, and since then the girl's health has gradually given way. The discharge was suppressed for five months, during which the patient suffered from headache, and loss of appetite, and at the recurrence of each menstrual period, from colic, &c. At these periods also there was a slight discharge of mucus, but no blood, from the vagina.

M. Mondiere ordered a sinapism to be applied on the outer side of each breast for twenty minutes, at the period supposed from the occurrence of the above symptoms to be menstrual. The menses appeared on the following morning, but lasted only a single day. The sinapisms had produced a deep erythematous redness and a swelling which were dissipated in forty-eight hours.

The following month, the same treatment was renewed, and the menstrual discharge appeared more abundantly, and continued for three days, since when no treatment has been necessary.

M. Mondiere thinks that irritation of the mammæ, is only applicable to cases in which the amenorrhœa depends upon a deficiency of vital action in the uterus. But supposing this question decided, should we have recourse to leeches, incision, or sinapisms? Experience seems to pronounce in favour of the latter remedy. And again, should we apply only one sinapism for a lengthened period, like Mr. Patterson, or with the author, put on two mitigated sinapisms for a shorter period?—*London Lancet, February,* 1835.

4. *Menstruation at advanced periods of life.*—Having been engaged more than twenty-seven years in public practice, and not having met, till within these few years, with any cases like the following, I think it right to send them to you for insertion in your publication. I have read the Medical Gazette since its commencement, but I do not remember any similar cases recorded in that periodical.

Sarah Johnson, aged eighty-seven, was attended by me, in the year 1830, in the workhouse of the Liberty of St. Andrew's, and menstruated freely, but she in a few days after died. She complained of considerable pain. The fluid did not coagulate.

1830. Ann Lovel, aged seventy-five, a patient of mine, in the Liberty of the Rolls workhouse, was attacked, the early part of this year, with violent menorrhagia. The common remedies, inf. rosæ, acid, &c. removed the complaint. The fluid did not coagulate. This woman has continued at irregular intervals to menstruate till the date of this communication: she menstruated last week.

Mary Waller, aged sixty-seven, placed herself under my care, in the Infirmary for the parish of Islington, also in the year 1830. She was then labouring under a violent attack of menorrhagia. The fluid did not coagulate. She continued two or three years on my list, and died from exhaustion. The usual remedies relieved this woman. It struck me as curious, that in three public establishments, distant from each other, three similar cases should have occurred in my practice.

Mary Dick, aged eighty, was attacked, at her own residence, with an abundant flow of the menstrual discharge. When I saw her, she was in great pain. She said she had not been unwell for thirty years before. Opiates relieved her, and she finally got well. This case occurred in the year 1829.

Mary Brown, a nurse in Islington Infirmary, is at the present time menstruating: she is nearly eighty. She says her menses ceased when she was forty years of age. She has had the discharge now regularly for two or three years, and at monthly periods. Dovers' powder relieves her.

Ann Lovett, about eighty years of age, a bed-ridden patient, now under my care in the Infirmary of Islington, bleeds one month at the nose, and the other month menstruates regularly: the menstrual fluid does not coagulate. When the menses cease, leucorrhœa appears. She requires aperient medicines, and occasionally zinc lotions. This patient's case is similar to Lovell's, mentioned already in this paper.

A female consulted me, about two years ago, for an attack of erysipelas on the face and arms. She stated that she menstruated at seventeen, and continued to be regular till thirty years of age, when the catamenia finally disappeared. She was, at the time when under my care, forty-four.

In the year 1833, Mary Owen, aged seventy-seven, a pauper patient in the workhouse of the Liberty of the Rolls, was placed under my care, with an abundant menorrhagic discharge. She was in much pain. She had not been in such a state, she said, for these last thirty years. In a few days, however, she died.

1833, August 31st.—Charlotte Kiernan, aged seventy-one, a pauper patient in the last mentioned institution, applied to me, with abundant coloured discharge from the uterus. She was in much pain. Purgatives and opiates relieved this female. She told me she "was in the same state that she was when at the age of twenty." This woman is now quite well.

Mrs. Gray, a nurse at one of the public institutions under my charge, aged fifty-five years, told me, that seven years ago her menses ceased, but for five years she had a monthly discharge of blood from the nipples. Her health was unimpaired.

It is the general opinion, that when aged females are attacked with this peculiar discharge, they are sure speedily to die. My experience does not warrant me in forming this conclusion, for several of my aged patients subject to this infirmity are now as well as ever they were, and very likely to continue so; nor do I think they will die, except from extreme age.

[*London Medical Gazette*, *Feb.* 1835.

5. *Case of Tumour in the left Auricle.*—Susan Rowland, on her admission into the hospital the 10th of December, stated herself to be forty-five years of age, and single; that she had spit blood occasionally for five years, and had been afflicted with cough and palpitation for the last five months. She was anasarcous, had a livid countenance, there was dyspnœa, orthopnœa, decubitus only on the left side, fainting, small pulse, throbbing of the jugulars, expectoration of blood (sometimes in small globules,) crepitation in the lower lobe of the right lung, slight bronchophony; percussion dull.

Slight increase of impulse in the heart—sounds peculiar; between the first and second sound there is heard a supplementary one, which it is difficult to describe, but it suggests the impression of some obstruction in the aorta or in the mitral valve.

The patient speedily became worse: nights disturbed; more anasarca and orthopnœa, under which she rapidly sunk.

The sounds of the heart altered slightly a short time previous to her decease, the additional sound appearing to run more into the second, whilst originally it seemed to have been more closely connected with the first.

Post-mortem appearances.—Pulmonary apoplexy at the base and at the apex of the right lung.

Heart.—Right auricle and ventricle much dilated. In the left auricle, a tumour, as large as an egg, attached by a pedicle to the inner surface of that cavity, just below the opening of the pulmonary veins, and at the point of the fossa ovalis. The tumour was covered by a thin, smooth, shining membrane, a prolongation of that of the lining membrane of the auricle, which it in every respect resembled, and which gave to the pedicle (about the size of a quill,) a degree of strength and resistance that enabled it to sustain the heart when raised by grasping the tumour.

The tumor felt solid, like spleen, when cut; its section presented a firm gelatinous substance, of uniform appearance, of a deep red colour, not unlike recently coagulated blood, but as if contained in a fine cellular tissue.* On being for some hours exposed to the atmosphere, the investing membrane having become somewhat dry, blood-vessels of an arborescent form were perceptible therein, very similar to the appearance of the investing membrane of the chick as it leaves the shell.—*Ib. March,* 1835.

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* The writer of this account regrets not having had an opportunity of ascertaining by maceration what was the structure of this tumor.

6. *Diagnostic Symptom in Peritonitis.*—A paper was read at the last meeting, by Dr. Bright, of Guy's Hospital, the chief object of which was to point out a symptom occasionally occurring in inflammatory attacks of the peritoneum, and of importance as diagnostic of particular changes in that membrane. He stated, that when adhesion had taken place between the peritoneum lining, the parietes of the abdomen, and the peritoneum covering any portion of the included viscera, a peculiar sensation might be perceived by the physician who placed his hand over the part; which varied from "the crepitus yielded by emphysema, to the sensation produced by bending new leather in the hand." Four cases were detailed in which this symptom had existed, and by it the existence of such adhesions had been detected during life; and the post-mortem examination had proved the correctness of the diagnosis. Three of them were cases of ascites, two of which had survived the operation of paracentesis several years. One was a case of ovarian dropsy, in which the patient had refused the relief which had been proposed by paracentesis.

Dr. Bright had seen other cases in which the same symptom had been observed, but the health of the patients having been re-established, the adhesion could only be matter of conjecture.

The paper afterwards proceeded to the description of several morbid changes occasionally observed in the peritoneum, which were illustrated by some cases and observations.—*Ib.*

7. *Preparation and employment of Aconitine.* By Dr. Turnbull.—We have made several attempts to obtain aconitine from the Parisian chemists, for the purpose of employing it in medicine, but have never hitherto succeeded. It is now, however, prepared in town, and may be had in sufficient quantity for present use, by those practitioners who may wish to make trial of its properties. We have contrived several processes for obtaining it, two of which shall now be given: the first is the easier to manipulate, but the second yields a much purer result.

A quantity of the fresh root of the aconitum Napellus must be procured, and care should be taken that it be sound, and that the root be that of monkshood; for sometimes other roots are sold for it. Let it be carefully and cautiously dried, and then reduced to powder; this latter operation is not unattended by danger, especially if a part of the fine dust which rises from it be inhaled. One part by weight of the powder, and two parts by measure of strong alcohol, are to be digested together in a gentle heat for seven days, and the tincture, while warm, is to be filtered. It is then to be reduced to the consistence of an extract by careful evaporation, at a low and well-regulated temperature; the object of this, is to prevent the destruction or expulsion of the active principle, which would very probably ensue, if the temperature employed were higher than barely sufficient to carry off the alcohol. To the extract thus prepared, liquid ammonia is to be added, drop by drop, and mixed well with it, to precipitate the alcaloid; and in this part of the process, care must be taken that too much be not added, as in some instances the product appears to have been decomposed by inattention to this circumstance. It is difficult to give a precise rule as to the quantity; but enough will have been added, if the extract give out the odour of ammonia, when stirred.

The mass now consists of impure aconitine, mixed up with a quantity of extractive and other matters, soluble in water; and it may be taken up either with boiling alcohol, or sulphuric ether; or the soluble matter may be removed by repeated washings with small quantities of cold water, which will leave the aconitine. This latter process, is the one we have generally employed, and is performed by pouring a little water on the extract, and mixing them carefully together, then allowing the undissolved part to subside, pouring off the fluid, and repeating the operation, as long as any soluble matter is taken up; a quantity of light brown or gray powder is left, which may be purified by subsequent solution in alcohol. This powder contains the active properties of the aconite, in a high degree of concentration. A grain of it was dissolved in a dram of alcohol; and twenty drops of the solution put into the mouth of a guinea-pig, occasioned death in a few minutes. Other experiments have been performed; all of which prove the extreme energy of the substance.

The second process consists in dissolving the alcoholic extract, prepared as before, without the addition of the ammonia, in as much cold water as will take it up, and carefully decanting the solution from the insoluble part, and then filtering it. To the filtered solution, liquid ammonia is to be added, drop by drop, as long as it occasions any precipitation. When the precipitate has subsided, the supernatant fluid should be carefully poured away, or drawn off by means of a syphon; and after the precipitate has been deprived of as much of the fluid as possible, it should be purified by a sufficient number of washings with small quantities of cold water, and then carefully dried. The product obtained by this process is white.

The aconitine is possessed of an action similar, in some respects at least, to that of Delphinia. When a small quantity of it, either made into an ointment or dissolved in alcohol, is rubbed for a minute or two upon the skin, a sensation of heat and prickling is experienced; to this succeeds a feeling of numbness and constriction in the part, as if a heavy weight was laid upon it, or as if the skin were drawn together, by the powerful and involuntary contraction of the muscles beneath. This effect lasts from two or three to twelve, or more hours, according to the quantity rubbed in. So small a portion as the one-hundredth part of a grain, has produced a sensation that has continued a whole day; but the alcaloid in this instance was in a high degree of purity.

The action of the Aconitine upon the cutaneous vessels, appears to be less than that of either Veretria or Delphinia; for in no case hitherto observed, has it produced a greater degree of vascular excitement than might easily be accounted for by the friction itself; and in one instance where the Veretria ointment did occasion irritation, the aconitine has been employed without giving rise to any.

The diseases in which I have chiefly employed the aconitine externally, are tic douloureux and neuralgic affections generally, and in gouty and rheumatic cases; and its success has fully answered the anticipations that had been formed of its utility. I have employed it in the form of solution in alcohol, in the proportion of one or more grains to the dram, and in ointment, made according to the following prescription:—

℞. aconitinæ, gr. ii. alcohol, gtt. vi. tere optime et adde, axung, ʒ i. ut fiat unguent.

The object of adding the alcohol, is to prevent the aconitine from forming a thick compound with part of the lard, which renders it difficult to make a proper ointment.

The proportion of the alcaloid in this prescription will, in general, be sufficient to begin with, but it may be augmented to four or five grains to the dram, if necessary; and in one case of tic douloureux of unusual severity, I prescribed as much as eight grains to the dram, with the most marked benefit. The best manner of applying the ointment, is simply to rub a small part of it over the whole seat of the affection, till the pain be either for the time removed, or until the full effect upon the cutaneous nerves above described be brought about; and the friction should be repeated three or four times, or more frequently in the day, according to the effect produced upon the disease. The proportion of the aconitine ought to be increased at every second or third friction; and the same rule elsewhere laid down, in regard to the action of Veratria and Delphinia, also holds good in the present instance, namely, that unless the friction occasion a full development of the peculiar impressions caused by the aconitine when rubbed on the skin, no benefit whatever is to be looked for from its employment. It is almost needless to remark, that an application of such activity should not be resorted to, if there be the slightest abrasion of the surface of the skin, and that it should be carefully kept from coming in contact with any of the mucous membranes.

The next preparation that requires notice, is the ammoniated extract of aconite; this is probably the best appellation for the substance, although it be in reality a mixture of all the active principles, along with extractive and other matters. It is made by evaporating very carefully, and at a low temperature, the tincture of the dried root of the plant, prepared as already directed in the process for obtaining the aconitine, to the consistence of an extract. To every dram of this, eight or ten drops of liquor ammoniæ should be added; and after the mixture has stood a short time in a very gentle heat, to drive off the excess of ammonia, it is to be used in the form of ointment, according to the following prescription:—

℞. extract, aconit. ammon. ʒ i. axung. ʒ iii. M. ut fiat unguent.

This, from its dark colour, may be less agreeable application than the aconitine ointment; but appears to me, to be at least as efficacious, and it has the advantage of being easily and cheaply prepared: and on these accounts, it is better suited for hospital practice. The proportion of the extract may be increased two or three fold according to circumstances.

When this ointment is rubbed upon the skin, it occasions sensations in the part, similar to those which are produced by the aconitine ointment; they are however, rather more pungent in their character; and this probably arises from the extract containing what is called the acrid principle of the plant, as well as the alcaloid itself; and it is absolutely necessary that with this preparation also, these sensations should be induced, in order to its having a full effect on the disease for which it is applied.

In the report of the preceding case, it might be inferred that the discovery of the properties of the aconitine, when applied externally, was due to Dr. Roots; but in justice to him, I must state that the report was not drawn up by him, and that he has in the most handsome manner disclaimed all merit in the discovery.—*London Medical and Surgical Journal, for February,* 1835.

8. *The best mode of administering Oil of Turpentine.*—A writer in the London Medical and Surgical Journal, proposes the following formula for the administration of this article.

℞. Olei terebenth. ʒ iss vel ʒ ij; magnes carbonat. ʒ j; tere et adde, aquæ menth. sativ. ℥ v; syrup. limonis, spirit lavend. comp. āā, ʒ ij.

Misce et divide in haust. iv, capt. j, ter quotidie.

This formula I have given with unvaried success for many years in gout and rheumatism, even to those who were previously disgusted by the taste and smell of turpentine, and also to those who, from *acidity*, could not retain it in any other form on their stomachs, (the violent chemical action that takes place on the admixture of turpentine and acids is familiar, though incomprehensible, to most medical men,) being the cause in the greater number of instances why it is rejected. Some time ago, you made mention of something of the kind recommended by a French writer, as a novel mode of exhibiting turpentine. Now, I beg leave to say, that the Frenchman was forestalled by a pupil of yours, who prescribed the above formula, nearly two years ago, for Mr. Midgley, an eminent chemist in the Strand, who mixed his own portion and swallowed it, and to whom your pupil refers you as his authority; and, if required, many more such references can be given.

[*London Medical and Surgical Journal, March,* 1835.

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9. *Vicarious Lactation.* By John Langley.—Not having met with a similar case to the following, during nearly twenty years practice in the metropolis, I cannot but consider it one of exceedingly rare occurrence, and such as you may probably deem worthy of professional record. It is that of a woman who during the latter months of utero-gestation, and at the period of lactation, has the axillary gland under each arm much enlarged, and secreting a profusion of milk, pouring it forth simultaneously, and probably sympathetically, every time she applies her infant to the natural source; the gland, with the accompanying distended integument, forms a tumour of the size and shape of an ordinary sized tea-cup inverted, which yields upon lateral compressions a copious discharge of milk, passing through the cuticular pores; by applying the breast-pump, I extracted a considerable quantity of fluid, having the apparent character of milk, separating into serum and curd upon the addition of acetic acid.—*Ib.*

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10. *Blue Fever of Children* (*Febris Cœrulea.*) By M. Goelis of Vienna.—The disease thus named by M. Goëlis is an affection *sui generis* not hitherto described; it is not to be confounded with the *morbus cœruleus* caused by diseased heart. It is only seen in children from four to twelve months old, and most commonly among the lower classes, who, together with the ingestion of coarse farinaceous food, are subject to the mischiefs of damp unwholesome habitations. The disease always comes on by paroxysms, the children becoming suddenly blue, the respiration difficult, the pulse small, hard, and spasmodic. The paroxysm lasts for some time, disappears and returns; but the intervals daily become less, and the paroxysms finally coalesce. The skin is frequently covered with a viscid sweat, and death takes place suddenly. On dissection, the blood-vessels are found greatly congested. Apart from the febrile state which accompanies the attacks, the disease presents all the

characters of a nervous disorder; and the remedies that have succeeded the best with M. Goëlis, are the succinate of ammonia, and other antispasmodics, combined with mucilaginous medicines.

Together with these internal remedies, warm alkaline baths should be used. When we have succeeded in overcoming the spasm, a purgative of calomel or a mixture of rhubarb and magnesia should be administered.

Children are, besides, subject to a peculiar *chronic sweat,* which differs from the sweating sickness in possessing no febrile characteristics. In these cases the skin becomes bluish, and, as it were, transparent. This state can very well be combatted, according to M. Goëlis, by the administration of a slight infusion of bark with milk, and by frictions with oil of sweet almonds repeated several times a day.

[*London Medical and Surgical Journal, for March,* 1885.

11. *Ball in the Lungs.*—This ball had penetrated the chest above the mamma, after having broken the head of the humerus. The limb was amputated at the shoulder joint, and the patient recovered speedily from the operation, but was liable to fits of dyspnœa and frequent hæmoptysis for twenty-five years after, at the end of which period he died. The ball was found behind the third intercostal space in the midst of the pulmonary tissue, which adhered in this place to the third and fourth ribs. The cavity in which the foreign body was lodged, was anfracturus, and communicated with dilated bronchial tubes.—*Dublin Journal, March,* 1835.

12. *Sohmeyer on the Results of Re-vaccination in the Army, during the year* 1833.—The re-vaccination of the soldiers of the army and of newly entered recruits, recommended since the year 1831, has been carried on during the year 1833.

Altogether there were about forty-eight thousand four hundred and seventy-eight individuals vaccinated. Those who exhibited a cicatrix from former vaccination,

Distinctly, amounted to, .	37,286
Indistinctly, . . .	7,641
Not at all, . . .	3,551

The vaccinations performed at this time, after careful examination made during the usual period, were found to be,

Regular in their course, .	15,269
Irregular, . . .	12,203
Without effect, .	21,006

The latter were again operated upon, and

With effect, . . .	784
Without effect, . .	3,337

After vaccinating, which should be done with at least twenty punctures,—eight pustules were on an average obtained,

From	1 to 5	pustules, . .	6,586
	6 to 10	do. . .	4,854
	10 to 20	do. . . .	3,217
	21 to 30	do. . . .	612

Of those who were vaccinated previously, and during the year 1833, with effect, there were attacked in the course of the year,

With varicella,	54
With varioloid,	50
With genuine pock,	20

From this estimate it will be seen, that the army medical men undertook the task of re-vaccination with great zeal, notwithstanding that they had to combat many obstacles and difficulties, partly from the short time that the recruits who entered one division of infantry later than usual in 1833, were under the control of the medical men, and partly from a deficiency in vaccine lymph, necessary for the re-vaccination of so many persons, which in many instances, as for example in the recruits of the sixth corps, paralyzed the activity of the medical officers, and prevented the extension and universality of re-vaccination which was so desirable. This want of a sufficient number of children with mature vaccine pustules, from which lymph to re-vaccinate the soldiers could be taken, obliged many surgeons not only to use dried matter preserved on bits of wood, needles, or between glasses, but to employ it after eight days had passed, and from the persons so vaccinated to re-vaccinate others.

Re-vaccination by means of old matter on covered needles, or preserved between glasses, is often without effect, when in the same persons a beautiful pock may be produced, by using the lymph fresh from another pustule.

The majority of army surgeons agree, that less satisfactory results are obtained from the use of old lymph, than from the employment of recent matter, whilst some maintain that it succeeds as well.

Touching the method of operating on these re-vaccinations, whether by puncture or incision, some adopted one plan and some another, agreeing, however, in the introduction of the matter through the epidermis. The results upon the whole was about equal in both cases, though perhaps the maturation was more perfect in adults when an incision had been made.

Now and then when an incision had been made according to Eichorn's plan, and the infection took, there appeared a comparatively small pustule, the cause being probably the deficiency of lymph to supply the incision in the skin.

Concerning the consequences of the re-vaccination of the army in 1833, it appears from the foregoing statement, that in almost a third part of those who were re-vaccinated the cow-pox ran a regular course; (in the year 1831–32, this took place in more than a third of the cases.) Although when no sensible difference of susceptibility of cow-pock was perceived by the medical officers, the re-vaccinated persons might exhibit a distinct, indistinct, or no mark at all, of the former vaccination; yet this susceptibility was generally the least, when the mark was distinct. *The vaccination of such individuals was often effective even when traces were left of his previous recovery from the small-pox.*

Such cases occurred in almost every corps, but with remarkable frequency in the second corps. From among these last cases of regular cow-pox, was lymph taken, and which was effective for the vaccination and re-vaccination of other persons. In one of these cases, a child as yet unvaccinated was cut in one arm, and matter from a soldier who had been vaccinated after having had small-pox previously, was inserted, whilst the other arm was treated with vaccine matter from a child who had not had small-pox, and the results were similar in both arms. *In a few cases, genuine cow-pox followed vaccination, where the traces of former vaccination and also of small-pox were present.*

To a certain degree in corroboration of this, there are found amongst the cases, histories of individuals who were attacked with small-pox, and who exhibited in their persons marks of a former visitation of the same disease. Ordinarily the results of the later attempts were slight in proportion to the shortness of the time which elapsed from the former attack of cow-pox, small-pox, or varioloid. To this rule, however, there were several exceptions, as for instance, in a soldier who was vaccinated in 1832; in the year 1834 he was re-vaccinated with equal success. In another case it was repeated successfully after three weeks. The pustules produced by vaccination in most cases ran through their usual stages very regularly; now and then, however, variations were observed, in which the characteristic marks were not perceived until some days later than usual. In one case, the first insertion of matter being ineffective, a second was practised eight days afterwards, about a hand's breadth below the pit. Not only was this second successful, but the prior vaccination now took effect, and both ran their usual course together. Frequently when many pustules arose from the re-vaccination, the glands of the axilla swelled, and a blush of inflammation was observed upon the upper arm. This swelling of the axillary glands occurred sometimes in the false cow-pock.

When the vaccination failed, the cut exhibited very slight re-action in most cases, but sometimes there were red spots, or an inflamed knot; in the latter cases swelling of the axillary glands and fever were developed.

In a musketeer, in whom the marks of a former insertion were indistinct, and on whom re-vaccination took effect, the *rare phenomenon of a universal eruption of cow-pock was observed,* so that vaccine pustules arose not only when the matter had been inserted, but in other parts of the body, and the most distant from the insertion, resembled perfectly in form and progress those produced by the inserted matter. As an experiment, those other soldiers were vaccinated with matter taken from a pustule on the loins of this man, at a distance from the insertion of the matter, and in them regular cow-pock was developed, and from them was propagated to another by insertion.

An artillery man, who was vaccinated in his youth, and re-vaccinated in the year 1833 without effect, was seized somewhat later with varioloid. The eruption of thinly scattered pustules followed as usual, but somewhat more inflamed. The fever continued after the appearance of the eruption, the pock was regularly formed on the fourth day, remained the following day without change, and died off on the sixth day, leaving only one on the jaw. The head and the chest were now attacked; although the pulse was small, fever declared itself, and inflammation of the throat came on. *Eight days after this attack, a new crop of thirteen pustules appeared on the neck, on a spot where a blister had been applied.* In some who had been re-vaccinated without effect, the small-pox broke out the day after.

In such a case in which the small-pox appeared along with the twelve genuine cow-pock pustules, the latter remained stationary until the former had arrived at the first stage of maturation, with which it then ran equably the remainder of its course.

In one soldier the itch appeared immediately after vaccination, but appeared to exercise no influence on it, for after the usual time genuine pustules appeared, and proceeded regularly through their course.

How far the object of the re-vaccination, the prevention of small-pox, was attained, the foregoing details will indicate. In about three years, among the vaccinated and re-vaccinated soldiers, there have been about seventy cases of genuine and modified small-pox, and among them several who had been operated on during the year 1833. This result may, perhaps, appear unsatisfactory, and the attempted preservation ineffectual. We should take into account, however, the increasing frequency of small-pox during the latter years, especially the year 1833, when it spread nearly through the whole monarchy, compared with its occurrence, between eighteen and twenty-four years ago. Besides, in these great bodies of soldiers, there appear to be individuals who were vaccinated in their infancy, and who were attacked with natural small-pox: if, further, we consider the living together of the men, so adapted to spread the disease, the above cited results will appear so much the less surprising; the former opinion of the absolute protection of the cow-pock against the small-pox will appear overthrown by three years experience; nay even the small-pox itself does not protect the individual visited by it from a return.

Altogether the reports agree, that either the re-vaccination was conclusive in preventing small-pox, or that in the few cases which did occur, it appeared to be rendered milder. It should here be mentioned also, that during the year 1833, there occurred three hundred and twenty-five cases of small-pox in the 8th corps; one hundred and ninety-four in the 1st; ninety-seven in the 2nd; thirty-two in the third; and only two in the fourth quartal. This proportion offers an evident proof of the beneficial consequences of re-vaccination, for the frequency of the small-pox diminished always as the number of re-vaccinated increased; and in the 1st quartal the number of small-pox cases was greatest, and of re-vaccinations least.

Perhaps the success of the re-vaccination would have been more general, had not the medical officers to combat against the want of fresh lymph from children, and in so many cases found it necessary to use old matter taken from vaccinated and re-vaccinated persons. As in general, the results of this process were not so favourable in appearance as when fresh matter from children was used, so it may be questioned whether the cow-pock, so generated, possessed an equally protective power against the small-pox, with that arising from the use of lymph taken fresh from the child's arm.

The experience of the next year, it is to be hoped, will contribute not only to solve this problem, but also may be able to explain with accuracy, some of the difficulties of re-vaccination above mentioned. Finally, it remains only that I mention a case in which the cure of a nævus maternus was partly effected by re-vaccination. It was situated on the right arm, and matter was inserted into it; two pustules arose and ran a regular course, and the nævus was found to have diminished one half.

[*Berlin Medicinische Zeitung*, *June*, 1834.—*Ib.*

13. *Zittmann's decoction for the treatment of Syphilis.*—As this famous nostrum, which had, at one time, almost fallen into disuse, has been lately revived in Germany, with great encomiums upon its efficacy in the treatment of syphilis, and some other affections; we subjoin the recipe for preparing it, together with the directions to be observed in its administration. It will be observed, that there are two decoctions of unequal strength.

℞ Rad Sarsaparill. ℥ xii.
Concis. infund. in lebete stanneo C. aq. font. Ms. xxiv.
Sacchari aluminis, ℥ iss.*
Mercur. dulcis, ℥ ss.
Cinnabar. antim. sublimat. ʒ i.
Coque donec supersint, Ms. viij. et subfin. coct. add
Sem. Anisi.
Sem. fœnic, ā ā ℥ ss.
Fol. sennæ, ℥ iij.
Rad. Liquirit. ℥ iss.
Ebullitione decocti exorta redundatio evitetur.
Coletur. d. ad. decub. viij.
S. Decoctum fortius.

℞ Specibus residuis demio addantur,
Rad. sarsaparill. contus, ℥ vi.
Et coque C. aq. font. Ms. xxiv.
Sub. finem coct. add.
Cort. citri.
Cort. cinnam.
Cort. cardamoni. minor.
Rad. Liquirit. ā ā ʒ iij.
Colentur, ℔xvi. d. ad. ℥ viij.
S. decoctum mitius.

The treatment is to be commenced by the administration of a cathartic of calomel and jalap. Next day, the patient should take eight ounces of the strong decoction warm, and remain in bed, to encourage perspiration. At twelve o'clock he may rise, and at one, take a pint of the weak decoction, cold. At night, before going to bed, he is take another eight ounces of the strong decoction, also cold. This course is to be continued four days in succession. On the sixth day, another cathartic is to be administered, and the decoction taken on the four following days, as before. Finally, on the eleventh day, the course is to be concluded by another cathartic. Should the cure not be complete, the entire course, or half of it, must be repeated, at an interval of eight days. Diet must be rigidly attended to, during the use of the medicine. The patient should take at noon thin soup, with two ounces of roasted mutton or veal, and two ounces of stale bread:—in the evening only two ounces of bread. On the day on which the cathartic is administered, he should be allowed only thin soups. After the cure has been completed, he should remain for some time in the house, on low diet, and return gradually to his accustomed mode of living. Chelius enjoins even a more rigid discipline. He confines the patient to bed during the entire treatment, and directs a full pint of the warm strong decoction, in the morning, and the same quantity of the weak in the afternoon. He only allows soup on those days on which the cathartic is administered;—on the intermediate days, the patient is confined to two ounces of meat, and the same quantity of bread. He does not think it necessary to give the third cathartic, advised above.—*Hecker's Wissenchaftlichen Annalen der gesammt. Heilkunde, Dec.* 1833.

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* A mixture of equal parts of sugar and alum.

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14. *Conjectures relative to the cause of the night paroxysm in Inflammatory Diseases.* By Professor Martini.—It is observed that, during sleep, some of the functions of organic life acquire increased energy, and that during this period, those of animal life are enfeebled in the same proportion. As, therefore, the greater number of diseases are seated in the apparatus of organic life, it follows, that this class of functions must be disturbed at night. If, on the contrary, the disease be seated in the functions of animal life, there will be no night paroxysm, but rather a tendency to remission during this period.—*Journ. des Connaissances Medico-Chirurg. Mars*, 1835.

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15. *Prophylactic against Venereal infection.*—Dr. Erdmann remarks, that if the glans penis and prepuce, be carefully washed with a strong solution of acetate of lead, after having connection with an infected female, the disease will not be communicated. A great many individuals who had adopted this precaution, entirely escaped the disease afterwards. It destroys the liability to absorption of the venereal virus, by giving rise to a hardening of the membrane.—*Græfe und Walther Journal für Chirurgie and Augenheilkunde,* 1834.

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16. A police soldier, aged 60, had been for a long time affected with obstinate cough and difficult respiration, which resisted all the means employed for relief. On examination after death, it was found, that the whole of the right lung was destroyed, and its place supplied by a sac, filled with a dark coloured fluid:—the left lung was in a state of extensive suppuration. The pleura, on both sides, was much thickened, and firmly adherent. This case, with others of a similar kind, shows that it is possible for life to be sustained, with a very small quantity of lung.—*Russ. Freund der Gesemdheit and Hecker's Wissenchaft. Annalen, August,* 1834.

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17. *Treatment of Intermittent Fever by Hunger.*—Mr. M——, practising physician at Marsanissa, in Ekatorienslaw, concludes hunger to be the best remedy for intermittent fever. He recommends a strict fast of three days, and gives his patient during this time only common water to drink, without either meat or medicine. It is sometimes, though seldom, needful to premise to this course of treatment, an emetic or an aperient. All tasting of food, even in the smallest quantity, tends to hinder the effect. After three days the patient must gradually accustom himself to food. Mr. M—— has employed this method these twenty-five years in different parts of Russia, and always found it effectual, of what kind soever the intermittent might be.

[*Dublin Journal, March,* 1835.

VARIETIES.

Professor Grant, of the London University, has just published the first part of an elementary treatise on comparative anatomy. From the high reputation of the author, and the almost unequalled popularity of his lectures on that subject, the publication of which has just been completed in the Lancet, we feel assured, that some of our enterprising publishers would be amply remunerated, for publishing an American edition of Professor Grant's Work. It is much to be regretted, that so little attention has been paid to comparative anatomy in our country; but we think this has been, in a great degree, owing to the want of a suitable manual, to direct the pursuits of those, who might otherwise be disposed to embark in this important study.

A translation of Louis' valuable Work on Phthisis, by C. Cowan, M.D. is announced for publication: and in the last No. of the Boston Medical and Surgical Journal, it is stated, that Dr. Winslow Lewis, of Boston, proposes to translate Gall on the functions of the brain, and Manec on the ligature of arteries.

At a meeting of the "Royal Academy of Medicine of Paris," held on the 17th of Febuary, 1835, Dr. Sam'l Jackson, of Philadelphia, was *unanimously* elected a foreign corresponding member.—*Boston Med. and Surg. Jour.*

We have received a printed circular, from Dr. A. Townes, of Abbeville district, South Carolina, from which we perceive, that the physicians there have organized a District Medical Society. We have before adverted to the advantage of these associations, and sincerely hope, that now the spirit is up, it will not be allowed to become extinct. Our friends of Abbeville, have our hearty good wishes for the success of their undertaking.

We have received the following publications since our last report:

The American Cyclopedia of Practical Medicine and Surgery;—a digest of Medical Literature. Edited by Isaac Hays, M.D. &c. No. vii. April, 1835. (*From the publishers.*) This number concludes the article *Anus*, commenced in the last, and terminates with the article *Apoplexy.* It is in no respect inferior to its predecessors. The next No. which will be published in July, will contain, besides other articles, the general and special anatomy of the arteries, illustrated by beautiful wood-cuts.

Catalogue of the officers and students of the University of Virginia, session of 1834–35. (*From Prof. Warner.*) The following are the number of students attending the respective medical classes: Chemistry and Materia Medica, 95; Medicine, 37; with the addition of 5 on Medical Jurisprudence; Anatomy and Surgery 40.

Eighteenth Annual Report on the state of the Asylum, (Frankfort,) for the relief of persons deprived of the use of reason. Philadelphia, 1835.

An appeal to the public, and especially the medical public, from the proceedings of the trustees of the University of Pennsylvania, vacating the chair of Materia Medica and Pharmacy. By John Redman Coxe, M.D. Philadelphia, 1835.

Eulogium on the Life and Services of Simon De Witt, Surveyor General of the State of New York, Chancellor of the University, &c. &c. &c. Delivered, by appointment, before the Albany Institute, April 23, 1835.—By T. Romeyn Beck, M.D. (*From the Author.*)

Revue Médicale Française et Etrangère, for Dec. 1834. (*In exchange.*)

Annales de la Médecine Physiologique, for Nov. 1834. (*In exchange.*)

Journal Hebdomadaire, des progrès des Sciences, et des Institutions Médicales, Nos. 51 and 52, for Dec. 1834. (*In exchange.*)

Journal des Connaissances, Médico-Chirurgicales, for February and March, 1835. (*In exchange.*)

The London Medical and Surgical Journal, (Dr. Ryan's,) parts 36 and 37, for February and March, 1835.

The London Medical Gazette, for Jan. and Feb. 1835.

The Lancet, Nos. 15 to 23, for the Jan. and Feb. 1835.

The Dublin Journal of Medical and Chemical Science, No. xviii. for December, 1834.

The American Journal of Medical Sciences, for May, 1835. (*In exchange.*)

The Boston Medical Magazine, Nos. 17 to 20, for April and May, 1835. (*In exchange.*)

The United States Medical and Surgical Journal, No. 9, for April. 1835. (*In exchange.*)

The Boston Medical and Surgical Journal, Nos. 8 to 15, for April and May, 1835. (*In exchange.*)

The Transylvania Journal of Medicine, and the Associate Sciences, for March, 1835. (*In exchange.*)

The Western Medical Gazette, No. 11, for March, 1835. (*In exchange.*)

The Western Journal of Medical and Physical Sciences, No. xxxii. for April, 1835. (*In exchange.*)

The two last periodicals are to form a matrimonial connection on the first day of July next. We wish them a fruitful conception, and a vigorous offspring.

The patrons of the Archives, who are in arrears, are requested to forward the amount of their subscription to the publishers. Printers and paper makers must be provided for.

NORTH AMERICAN ARCHIVES

OF

MEDICAL AND SURGICAL

SCIENCE.

Vol. II.] JULY, 1835. [No. 4.

ARTICLE I.

Observations on Sanguineous Tumours of the Head which form spontaneously, sometimes denominated Cephalœmatoma, and Abscessus Capitis Sanguineus Neonatorum. By E. Geddings, M. D. Professor of Anatomy and Physiology in the University of Maryland.

The disease upon which we propose to offer some remarks, is a soft fluctuating tumour, containing blood, generally occupying some portion of the scalp, mostly over the parietal bone, often accompanied with hard, prominent, uneven, circumscribed borders, imparting to the touch the semblance of a depression of the corresponding portion of the cranium. Such tumours are seldom observed, except in new-born infants; yet they are now and then met with in children of a more advanced age, and in some rare instances even in adults. The disease is not one of very frequent occurrence; yet when it is considered, that there are few engaged extensively in obstetrical practice, who have not had occasion to meet with it repeatedly, it is a little remarkable, that it should have received so small a share of the attention of practitioners, and that so few writers on the diseases of infants have noticed it. With only a few exceptions, it has been entirely overlooked, or very imperfectly described, by English, French, and American authors; and although the German physicians have investigated it with more attention, its characters still remain involved in much obscurity. Indeed, so far as our own country is concerned, the works which are in the hands of the profession generally, scarcely contain any notice of it, and as, we doubt not, there are many practitioners who have experienced more or less embarrassment on encountering a disease for the first time, which they had not seen described, we have thought we might be rendering an acceptable service to many, by offering such information on the subject, as we have been able to collect, either from our own observations, or from the labours of those who have made it an object of special inquiry.

1. *History of the disease.*—It is highly probable, that these sanguineous tumours, or abscesses, of the head were observed by practitioners of an early period, but as they have been generally confounded, until within a few years, either with hernia of the brain, or those fluctuating protuberances of the scalp which are occasioned by external violence, the first clear descriptions of them to be found are of comparatively recent date. It will indeed be observed, by referring to most of the treatises on obstetrics and the diseases of infants of the present day, that when these tumours have been noticed, they have been imputed either to the pressure of the head of the child against some part of the bony walls of the pelvis, or to some injury sustained during delivery. Under these circumstances, it is exceedingly difficult to offer a satisfactory history of the disease, since from the careless manner in which most of the cases have been described, it would be impossible, after so great a lapse of time, to distinguish between such as were proper examples of the spontaneous sanguineous tumours under consideration, and those which owed their origin to violence, or some other cause. That different conditions were confounded under the appellations encephalocele, ecchymosis of the scalp, &c. will be rendered apparent in the course of these observations; and it will likewise be shewn, that cases which were unquestionable examples of sanguineous abscess of of the head, were described as instances of hernia of the brain. It does not comport with the objects and scope of this paper, to enter upon a minute and elaborate history of the subject, and as we have neither time nor convenience to refer specially to all the accessible sources of information, we shall content ourselves with the references to the early authors made by Professor Nægele, who has investigated the question with much labour and attention, merely premising, that some of them not being at our command, we are unable to decide positively, whether the whole of

the notices bear upon the disease in question, or if some of them may not refer to some analogous affection. The following authors are enumerated by Nægele, as having noticed sanguineous abscesses of the scalp:—Aétius, Valentin, Mauriceau, Preus, Zwinger, Ledran, Trew, Corvinus, Störck, Bœrner, Smellie, Henkel, Gooch, Ferrand, Chopart, Desault, Camper, Baudelocque, Stein, Voigtel, and Prenke. Most of them, however, have merely considered the subject incidentally, as connected with the practice of surgery and obstetrics, or only reported isolated cases, without attempting to give a pathological exposition of the characters of the affection. It should be remarked, moreover, that by many of the individuals whose names have been mentioned, the disease was described under the name of hernia cerebri—an error which has been committed likewise, by many of their successors; and it is highly probable, that even at the present time, the two affections are sometimes confounded.

Sanguineous abscesses have been either described ex professo, or noticed particularly, by Levret,(1) Siebold,(2) Michaelis,(3) Nægele,(4) Klein,(5) Paletta,(6) Zeller,(7) Hoere,(8) Busch,(9) Carus,(10) Osiander,(11) Gœlis,(12) Chelius,(13) Diffenbach,(14)

(1) Journal de Med. xxxvii, 410. 1772.

(2) Chirurgische Tagebuch, Nüremberg. 1792, Obs. xvi, xliv.

(3) Ueber eine eigene Art von Blutegeschwülsten, in Loder's Journ. bd. ii. Stuck 4. 657. 1799.

(4) Erfahrungen und Abhandlungen aus dem gebïete der Krankheiten des weiblichen Geschlechtes, Manheim, 1811. Also in Journal Complimentaire, tome xiii, p. 227. Paris, 1822.

(5) Bemerkungen über bisher angenommene Folgen des sturzes der Kinder auf den Boden bei Schnellen Geburten, Stuttgart, 1817.

(6) Exercitationes Pathologicæ, Pars i. cap. x. p. 123. Cap. xii. p. 188. Mediolani, 1822.

(7) De Cephalæmatomate, seu sanguineo cranii tumore recens natorum commentatio inauguralis, &c. Heidelberg. 1822. Also an analysis of the same, in Journal Complimentaire, xiii. p. 171. 1822.

(8) De tumore cranii sanguineo recens natorum et externo et interno, &c. Berol. 1825. Also Ueber die äussere und innere Blutgeschwulst neugeborner Kinder, in Von Siebolds Journal für Geburtshulfe, bd. iv. Frankfurt, 1825.

(9) Ein Beitrag zur aufklärung des wesens der schädelblutegeschwulst neugeborner Kinder, Heidelberg. Klinisch. Annalen, bd. ii, p. 245, 256. 1822.

(10) Lehrbuch der Gynækologie, bd. ii. p. 585. Leipzig, 1828.

(11) Handbuch der Entbindungskunst, bd. ii. abth. ii. p. 207. Tubingen, 1821.

(12) Praktisches Abhandlungen ueber die Krankhieten des kindlichen, Alters, bd. ii.

(13) Handbuch der chirurgie, bd. ii. p. 190. Heidelberg and Leipzig, 1829. Also Heidelberg. Klinisch, Anallen, bd. iv.

(14) Rust's Theoretisch praktisches Handbuch der chirurgie, bd. i. p. 120. Berlin, 1830,

Pigné,(15) Velpeau,(16) Mombert,(17) and several others, who have reported isolated cases. We have the memoirs and observations of most of these individuals now before us, besides a number of particular cases, and from these sources, aided by our own observation, we shall endeavour to condense such a description of the disease, as will serve to put our readers in possession of its most important characters.

2. *Description of the disease.*—It is proper to premise, that we do not propose to consider those sanguineous tumours which depend upon blows or contusions of the head, nor shall we notice some other superficial ones of the scalp, which consist of dilated capillary vessels, and which have received the appellation of aneurism by anastomosis, although we shall advert to a similar kind of tumour of the bone. Our observations will be confined to such affections of this kind as take place spontaneously, and which occur chiefly upon the heads of new born infants, though not peculiar to them alone.

These tumours are generally discovered at birth, or shortly after, but sometimes not before the expiration of several days. They likewise occur sometimes at a much later period, and have been occasionally met with at the end of several months, or even years. Such instances are, however, exceedingly rare, yet we have seen one in a child nearly two years old, and another in one between the age of five and six. There is generally but a single tumour, but sometimes two or more exist, either in a state of communication with each other, or perfectly isolated.* They are mostly small, slightly prominent, smooth and soft upon the surface, and circumscribed by hard defined borders, which in a majority of cases, when examined with attention, are found hard and elevated, conveying the sensation of a hard bony ledge, surrounding the outline of the tumour, and an intermediate excavation, as though the outer table of the skull had been removed. Sometimes they are more diffused and flattened, and less clearly circumscribed; but even when extensive, the hard prominent border can be perceived, although it is less regular, and frequently presents prolongations and sinuosities running in different directions, occasioned by the unequal power of resistance presented by the integuments at different points, in consequence of which, they yield more readily to the distending force of the blood in some places than in others. In a few instances, however, it is said by Zeller and Nægele, that the hard elevated boundary is either entirely absent, or confined to a portion of the circumference of the tumour. In all cases, when they are properly developed, a distinct fluctuation can be perceived, and by making pressure upon the part, the point of the finger can be brought to bear upon the solid bottom of the cavity. The skin is seldom discoloured, but presents a pale, shining appearance, and in a majority of instances, the part is so little sensible, that considerable pressure may be made over it without occasioning much pain. In some few cases, when the fluctuation above alluded to is not so distinct, the tumour is soft and spongy to the feel, and difficulty may be experienced in deciding upon its nature.

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(15) Journal Universel et Hebdomadaire. September, 1833.

(16) Ibid. October, 1833. Also, Thése sur les contusions dans tous les organs. Paris, 1833.

(17) Siebold's Journal für Geburtshülfe.

* Nægele, op. cit. Also Zeller.

The size of the tumour is exceedingly variable, and although it sometimes remains stationary from the time it is first observed, it occasionally increases progressively, until it attains a considerable volume. It may not be larger than an ordinary hazlenut; yet in some instances it attains the volume of an orange; and cases have been reported, in which it diffused itself over the whole extent of one of the parietal bones, or even the entire surface of the top of the head. In one of the cases which fell under our observation, the disease was seated over the course of the sagittal suture, and extended itself laterally, to each parietal protuberance; anteriorly, in front of the anterior fontanelle; and posteriorly, beyond the limit of the junction between the sagittal and lambdoidal sutures. Its dimensions, however, as previously suggested, may vary according to the duration of the disease; for although the tumour may exist anterior to the period of birth, as represented by Siebold, Osiander, Michaelis, Pigné and others, and present a well defined indurated border, it sometimes continues to increase for some time afterwards, until it attains a size much beyond that presented by it at the time of its first formation. This, however, can only happen when its barrier is formed by the soft parts, because when, as is sometimes the case, its boundaries are formed by bony deposite, the same facility of extension does not exist. Another circumstance deserving consideration in connection with these tumours is, that in a few instances, a manifest pulsation can be perceived when the finger is applied to the part, shewing that the cavity of the tumour communicates with one or more arteries. This phenomenon is, nevertheless, comparatively rare, and has only been noticed by a few individuals. The same thing is sometimes met with in those sanguineous tumours which form in consequence of contusions inflicted upon the head.

It is a little curious, that these tumours are in almost every instance seated over the parietal bones, and in a majority of cases, on the right side. This has been remarked by nearly all the authors who have treated of the subject. Only a few cases have been reported, in which the disease occupied the frontal or occipital regions, and Diffenbach remarks, that he had never observed one in the temporal region, although Chelius speaks of such an event, and Velpeau observed a case, in which the tumour was spread over the left parietal and temporal, occipital, and the right parietal regions. Pigné has erroneously represented, that they are never found in the course of the sutures. This is contradicted by one of our own cases, in which the tumour formed over the sagittal suture; by one of Nægele's, in which it extended from one parietal region to the other; as well as by Velpeau's case just referred to. A very interesting case is also reported by Michel,* in which a large tumour of this kind, which presented a pulsation isochronous with that of the brain, was seated over the posterior fontanelle, and the right limb of the lambdoidal suture. Indeed, it may be affirmed, that the disease may form upon any portion of the head that is not covered by thick muscles, and even these latter situations cannot be considered as entirely exempt, since we occasionally meet with sanguineous abscesses, which are probably of the same nature, in other parts of the body remote from the head. Paletta† has reported many such examples, and others might be referred to.

These tumours, when opened, are always found to contain blood. This fluid, however, presents various modifications, according to the extent and duration of the disease, the condition of the soft parts and the bone, and the intimacy of the connection between the cavity of the tumour, and the small adjacent blood-vessels. It is sometimes perfectly fluid and of a florid colour, as though it had issued fresh from a divided vessel—frequently dark coloured, sometimes sanious, but in a large proportion of cases commingled with more or less serum, by which

* Gazette Medicale, Mars, 1833. † Op. cit.

it is rendered much thinner than natural. Sometimes, indeed, it is so watery, as nearly to resemble serum, tinged with the colouring matter of blood; and it is highly probable, that there is a near affinity between these bloody tumours, and some of those of a watery character, which are occasionally found in the same situation. The blood, it is reasonable to infer, becomes more and more deteriorated the longer it is confined, and should the disease be allowed to continue until the bony structures become involved, the fluid will be rendered still more unhealthy, and may acquire an offensive odour. It may even become divested of its sanguineous character, by suppuration taking the place of the hemorrhagic action, and converting the tumour into a purulent abscess. We could cite cases in confirmation of this statement, and amongst others, we might adduce the one reported by Michel, which has been already referred to.

As regards the precise situation of the fluid, and its relations with the component parts of the scalp, and the subjacent bone, much difference of opinion has been expressed. By Osiander, Nægele, Zeller, Carus, Chelius, and Pigné, it is affirmed that the fluid is always deposited between the pericranium and skull; Diffenbach thinks it lodged between the pericranium and the integuments of the scalp, in which opinion some other writers concur; while Velpeau, taking a more correct view of the subject, thinks it may occupy either of these situations, or be even more profoundly situated, in the diploë of the cranium, or between the dura mater and bone, as represented by Hoere. Our own observations induce us concur fully in this sentiment. In one of the cases which we had an opportunity of witnessing, the pericranium was not detached from the bone, but was much thickened, and the fluid was deposited between it and aponeurosis of the occipito-frontalis muscle. In another, we are inclined to think that it was superficial to this aponeurosis, and between it and the skin of the scalp. The cases in which it occupies the diploë, or rather commences in that structure, must be exceedingly rare, notwithstanding it was contended by Michaelis, that the disease always depends upon the destruction of the outer table of the bone, and that the collection of blood is a consequence merely of that affection.* He was probably misled in some cases, by the abrupt, prominent, indurated boundary referred to above, which from its uneven hard feel, he mistook for the rugged border of the diseased bone. But although he may have been deceived in this way, there are unquestionably cases of the kind represented by him, and many who have treated of the subject subsequent to his time, have committed an equal error, in denying the existence of such an affection. Some of them, it is true, have admitted that bloody tumours sometimes form in the diploë, but they affirm that there is no analogy between them and the disease under consideration. This sentiment has been expressed by Osiander;[†] and others have described such an affection of the diploë, as a disease altogether dissimilar in its nature. It differs, it is true, in some particulars, from the common sanguineous abscess of new-born children, as that disease has been generally described; yet when the pathological characters of the two affections are taken into account, we question much the propriety of considering them as entirely distinct. At any rate, we regard their affinities as sufficiently strong, to entitle them to be grouped under the same head, and we shall, in accordance with this view, and nearly in pursuance of the plan adopted by Velpeau, divide sanguineous abscesses, or tumours of the head, into five orders, according to the depth at which the fluid is situated.

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* Loc. cit.

a. *Sanguineous abscesses seated between the skin and the aponeurosis of the scalp.*—When the fluid is deposited between the skin of the scalp and the epicranial aponeurosis, as it is most superficial and least apt to become diffused, it forms the most simple of all the varieties of the disease, and does not involve any serious consequences. Such tumours are of more frequent occurrence than either of the other varieties, and may be easily confounded with others, which form in consequence of the pressure sustained by the head of the child during labour, or of injury inflicted by the forceps or other instruments employed to assist that process. These latter swellings, however, denominated by the German accoucheurs *caput succedaneum*, are very different in their nature, and may be easily distinguished by characters to be pointed out, when we come to speak of the diagnosis of the disease. As the union between the integuments of the scalp and the aponeurosis of the occipito-fontalis muscle is exceedingly compact and resistant, when the blood accumulates in this situation, it diffuses

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[*] Loder's Journal fur Chirurgie, bd. ii. p. 660. Jen. 1799. And Hufeland's Journal, bd. iii. p. 81. 1804.

[†] Handbuch der Entbindungskunst, bd. ii. abth. 2. p. 214. Also in Abhandlungen und nachrichten, p. 235. 8. beschreib. tab. 1. fig. 5. Tubing. 1787.

itself with great difficulty, and such tumours are consequently, generally small, rounded, prominent, convex upon the surface, and surrounded by a well-defined hard elevated border, such as is felt in those bloody tumours which are so often produced by blows on the head. When the accumulation has existed for some time, the walls of the cavity become very much indurated, and sometimes acquire a consistence almost fibrous in its character. In this state, they do not suppurate readily, and after the bloody fluid has been evacuated, a kind of serous or lymph exhalation, either colourless or of a wine-lee hue, takes place into the cavity. As the deposite of fluid is not in a state of proximity with the bone, these superficial bloody abscesses are not apt to give rise to any serious consequences, and may be dispersed by proper discutient applications, or readily cured, by evacuating their contents. We witnessed a case of this kind a few years ago, in a youth of five or six years old, in consultation with our friend Professor Holbrook, of Charleston. The tumour, which occupied the parietal region was laid open and covered with a soft poultice, after which it healed from the bottom without any difficulty.

b. *Sanguineous abscesses situated between the aponeurosis of the occipito frontalis and the pericranium.*—It is more particularly to this variety of the disease, that Nægele and Zeller have appropriated the appellation cephalæmatoma; although, as previously remarked, they affirmed that the fluid is deposited between the pericranium and bone. We are inclined, however, to think with Diffenbach, that the affection to which their description applies, is seated between the aponeurosis of the muscle and the pericranium. There are here several circumstances to impress upon the tumour different characters from those which appertain to the first variety of the disease. The strong aponeurosis of the occipito-frontalis muscle is spread out upon a considerable portion of the top and lateral parts of the head; it is so loosely attached by cellular tissue to the pericranium beneath, as to glide upon it with great freedom; and the proximity of the disease with the surface of the bone, renders it much more liable to give rise to serious consequences, than when it is situated more superficially. In proportion as the blood accumulates beneath the aponeurosis, it is resisted by it in its tendency to protrude towards the surface; but in the direction of the circumference, it dissects up the loose cellular tissue which unites the aponeurosis to the pericranium with great facility, and diffuses itself extensively between the two structures, and over the surface of the head, until its further progress is arrested by a solid barrier, in form of the indurated border already adverted to, which is set up by the process of adhesive inflammation. In consequence of these conditions, such tumours are more flattened and expanded than the preceding, less prominent, and very often less accurately defined; for although they are generally limited by the hard prominent boundary described, this is not constantly the case, and instances sometimes occur, in which, as represented by Nægele and Zeller, no such barrier exists, or if it is present, it is confined to a limited portion of the circumference of the collection, so that the fluid may continue to diffuse itself where it meets with the least resistance, until it becomes spread out, irregularly, over a large extent of the top or lateral part of the head. The interposition of the aponeurosis, likewise, renders the fluctuation more obscure, and when the fluid is allowed to remain too long, the same influence disposes the mischief to extend to the pericranium and bone, and to give rise to caries and exfoliation of the latter, and sometimes to the death of the patient. Before these changes are induced, others takes place in the structures which form the immediate walls of the cavity. They become thickened and indurated; undergo, in protracted cases, considerable transformations of texture, acquire an imperfect pseudo-membranous lining, and occasionally take on the character at some points, of fibro-cartilage, or even bone. In a very afflicting case which we recently had occasion to attend in consultation with our friend Dr. Steuart, and which terminated fatally, the abscess had the tendinous aponeurosis of the occipito-frontalis muscle spread over its surface, and was diffused over nearly the whole top of the head. The inner surface presented an uneven mammillary appearance, apparently produced by a compact, yet somewhat spongy, vascular substance, apparently of adventitious development. The cavity was likewise lined by a thin adventitious membrane, such as forms in common abscesses of long standing, upon which the vessels of the new substance just adverted to seemed to ramify. The aponeurosis could be distinctly traced over the whole surface of the tumour, and to its lower face, the peculiar product which formed the principal part of the walls of the cavity adhered very intimately.

It is this mamillary texture, that in more advanced cases sometimes becomes transformed into a kind of ligamentous, fibro-cartilaginous, or even a bony texture; and cases have been reported, in which the last transformation was observed upon the cranial surface of the cavity at birth, or a very short period subsequent, thus corroborating the opinion of Siebold, Osiander, Michaelis, Pigné, and others, that sanguineous tumours, in some cases at least, form anterior to the time of delivery. The hard prominent contour which so generally surrounds the whole circumference of the tumour, is also sometimes of a bony consistence; and if we are to believe the assertions of Michaelis, Nægele, Zeller, and many others, it very generally presents this character. We are inclined to think, however, that their inferences have been drawn more from the sensation imparted to the touch, than from absolute dissections, and that although it is sometimes osseous, it is far more frequently a mere condensation, or consolidation, of the adjacent tissues. This is rendered probable by the facility with which it disappears after the tumour has been opened, which would not be the case, if it were of an osseous consistence. It should nevertheless be remarked, that the aponeurosis of the occipito-frontalis muscle sometimes becomes ossified, converting it into a thin bony arch, extending over the whole surface of the abscess, which is situated beneath. The only well authenticated case of this kind which we have met with, is one reported by Chelius.* He represents, that the *pericranium*, which was elevated by the tumour, when pressed, imparted to the finger the sensation of an elastic metallic plate, and a manifest feeling of crepitation. The pericranium, which is here represented to have been the seat of the transformation, could not have been separated and elevated from the bone to such an extent, without rupture, consequently, could not have been the part involved in the change. It is much more likely, that the part affected was the tendinous aponeurosis of the muscle, the situation and texture of which would render it much more liable to experience such an alteration. The case, at all events, is one of great interest, since it shows how an affection of this kind might be readily mistaken for a disease having its origin in the diploë of the skull, and separating the outer from the inner table of the bone. It is indeed not improbable, that both Michaelis and Osiander may have been deceived in this manner, in some of the cases which they have reported.

As the pericranium, in this variety of the disease, is interposed between the fluid and the bone, the latter does not generally become much affected, except where the tumour has existed for a long time, and an early opening is not made to evacuate the blood. The protective influence of the pericranium is, indeed, sometimes augmented, by its acquiring increased thickness, and undergoing other changes. Still the outer table of the skull is occasionally affected with necrosis or caries, and if the disease be allowed to continue, the walls of the cranium may be completely perforated, exposing the parts within, and imparting to the disease a fatal character. Michaelis, as has been previously remarked, pretended to have found disease of the bone in all cases; but although he was certainly wrong in making this sweeping inference, several such cases, well authenticated, have been reported by others, some of which no doubt, were examples of this variety of the affection.

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* Handbuch der Chirurgie, bd. ii. p. 193. Leipsig, 1829, and Heidelberg. Klinisch. Anallen, bd. iv. heft. 4.

c. *Sanguineous abscesses between the pericranium and the bone.*—It was remarked above, that Osiander, Nægele, Zeller, Carus, Chelius and Pigné, considered this the proper seat of the abscesses in question in all cases; at least, only a few of them admit that the fluid may be deposited elsewhere. Velpeau, on the contrary, influenced by the intimate connection of the pericranium with the bone, and its liability to rupture, rather than yield to the distending influence of the accumulation, thinks this form of the disease must be exceedingly rare, although he does not deny its existence. We have no doubt that many of the cases supposed by the individuals, whose names have been mentioned, to be of this character, were examples of the variety last described; yet when we consider the numerous minute vessels which pass from the pericranium into the substance of the bone, we can easily conceive, how sanguineous deposites may form here, more readily than supposed by Velpeau. Such a variety of the disease would of course be much more formidable than either of the preceding, because of the immediate contact of the fluid with the denuded bone, and the almost inevitable implication of the latter in necrosis or caries in consequence of these relations, especially when the fluid is not early absorbed, or when a timely puncture is not made to allow it to escape. Some of the cases observed by Michaelis may have been of this kind, and it is highly probable, that in many of the examples observed by Paletta, Osiander, Nægele, Zeller, Chelius, Diffenbach, and others, in which the bone was found diseased, the fluid was deposited between the pericranium and the bone. Still, it does not necessarily follow, that this was the case in all of them; because, the bone may likewise become affected in some of the other varieties of the disease. The extent to which the bone may be involved in such cases, is variable. Sometimes the affection is very slight, consisting, merely, of superficial caries and exfoliation; occasionally the outer table becomes necrosed and is thrown off; and in some rare instances, the entire thickness of the skull is detached, and exposes the dura mater beneath. Examples of this kind have been reported by authors, and were it necessary, several, which terminated fatally, might be referred to. It is evident, that much difficulty would be experienced, during the life of the patient, in distinguishing this variety of the disease from the preceding, or even from that which originates in the diploë. Fortunately, this is not often a matter of much moment so far as the first is concerned; but it may be sometimes important to discriminate between this form of bloody tumour and those which form in the diploë, because, as we shall have occasion to explain, there are some of the latter, which it would be unsafe to puncture.

d. *Sanguineous tumours of the diploë of the skull.*—It may admit of a question, how far bloody tumours which are developed in this situation, agree in their fundamental characters with those described above. Michaelis affirmed, that the affection which is the special subject of these observations, always consists in a destruction of the outer table of the cranium by necrosis or caries, and that the accumulation of blood beneath the pericranium is a consequence merely of this condition. Osiander likewise, while he objects to the inference of the author just quoted, alludes to a form of bony tumour of the cranium, which is sometimes congenital, in which a morbid growth takes place in the diploë, altering the structure of the outer table, and elevating that portion of the bone, but never destroying it.* Chelius, however, in considering these cases, remarks, that the first has been mistaken by those who have observed them, and that although apparently situated in the diploë of the bone, they in reality occupy the space between it and the pericranium, and what was mistaken for the outer table was the pericranium in a state of ossification. We can conceive such a mistake possible, yet there is incontestible evidence that tumours of the kind do sometimes form in the diploë, and give rise to all the consequences that have been attributed to them. Still the question recurs, are they identical in their nature with those which form in the tissues of the scalp, and between them and the bone? They certainly agree in some of their characters, yet in others they present a marked contrast. Both tend to destroy the bone; both may exist at birth or form shortly afterwards; and both are filled with blood; yet when those of the scalp are laid open, they do not continue to bleed after their contents have been discharged, while some of those of the diploë, under the same circumstances, pour out blood so copiously, as to endanger or destroy the life of the patient. The organization of the diploë explains, to a certain extent, this striking peculiarity. The reticulated structure between the two bones, is not only supplied abundantly with arteries, but as has been demonstrated by Dupuytren and Breschet, is likewise traversed by numerous veins of large size, which anastomose freely with each other, and form an intricate venous plexus within the bony texture. These vessels communicate freely by numerous small branches through the two tables of the skull, with the vessels of the scalp on the one hand, and on the other, with those of the meninges, and also with the great sinuses of the latter. We apprehend, therefore, that most of the bloody tumours which form in the diploë, have their origin in a kind of varicose condition of these veins; that in proportion as the tumour increases in size, the tables of the bone are forced asunder or destroyed; that they are, in short, proper erectile, or aneurismal tumours, and owe to this circumstance their faculty of pouring out blood to such an alarming degree when opened. We could refer to numerous cases reported both by the early and recent writers in confirmation of this view; and if all the examples which have been recorded under the appellation of fungus of the dura mater, hernia cerebri, &c. could be carefully analysed, it is probable, that many of them would be found to be instances of erectile tumours, or aneurisms developed within the diploë of the skull. This affection of the bones of the head has not, so far as we know, been properly described by writers; but tumours of the kind are not peculiar to this class of bones: they likewise form in the bones of the trunk and extremities, and the records of the science contain numerous examples, the nature of which has not until recently been understood. To this class ought probably to be referred the cases reported by Fabricius Hildanus,(1) Ruysch,(2) Pearson,(3) Else,(4) Lassus,(5) Freer,(6)

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*Handbuch der Entbindungskunst, bd. 2, th. 2, p. 214.

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(1) Observat. et curat. Chirurg. Cent. ii. Obs. xxvi.

(2) Observat. Anat. Chir. Observ. lxxxi.

(3) Medical Communications. Vol. xi. p. 95. 1700.

(4) Medical Observations and Inquiries. Vol. iii. p. 169. 1769.

(5) Pathologie Chirurgicale, tome i, p. 489.

(6) On Aneurism, p. 28.

Boyer,(7) Pelletan,(8) Scarpa,(9) Lallemand,(10) and several by Breschet,(11) the last of whom has published a very able memoir on the subject of sanguineous tumours of the bones. Some of the cases reported by Pelletan ought, perhaps, to be included under the same head,(12) but as our observations are intended to be confined to those which affect the head only, we shall not discuss this point.

Assuming the proposition, that a majority of those sanguineous tumours which are developed in the diploë, consist of a dilated condition of the venous or arterial plexus of that structure, we can easily comprehend why they bleed so profusely when punctured; the free communication between these veins and the great sinuses of the brain, as well as their intimate connection with numerous other vessels, being amply sufficient to account for this hemorrhage. The great facility, moreover, with which these veins become distended, the enormous extent to which they are capable of being dilated, and the encroachment which they must consequently make, when thus affected, upon the tables of the skull, and after these have been destroyed, upon the scalp, the meninges, and the brain itself, likewise explain the general phenomena of the disease and its fatal tendency. Should the outer table of the cranium first give way, the tumour will protrude outwards, and may attain a very great size, by forcing the pericranium and scalp before it; and in some cases of this kind, especially when the inner table of the bone is likewise destroyed, the tumour will present a pulsation isochronous with that of the brain. A pulsation is, moreover, sometimes perceptible, even though the brain may not be exposed; but this pulsation corresponds with that of the arteries. Should the inner table of the skull give way first, or yield more readily than the external, then the tumour, by protruding inwards, will encroach upon the brain and its coverings, and give rise to convulsions, paralysis, and death. Sometimes, indeed, when the walls of the cranium become completely perforated, and the tumour attains a considerable size, it assumes all the appearances of congenital hernia cerebri, may, like that disease, be forced into the cranium by pressure, and cannot be easily distinguished from it.

(7) Traité des Maladies Chirurgicales, tome iii.

(8) Clinique Chirurgicale, tome ii. p. 14.

(9) Sull' Aneurism.

(10) In Breschet Repertoire d'Anat. et de Physiologie, tome ii. p. 137. 1826.

(11) Ib. p. 142—178. From this, we select the above references.

(12) See Exercitationes Pathologicæ, Pars ii. 188—213.

In some instances, however, the diseased growth does not succeed in breaking up the bony tables, but forces them asunder, and forms for itself a bed in the interstice. An interesting case of this kind is reported by Velpeau, on the authority of Lauth. It was that of a young man, who received a blow with a cane on the parietal region. The immediate effects subsided in a few days, but two months subsequently, he was seized with violent pains at the opposite point, and the trepan was applied, without discovering any thing. On examination after death, which speedily followed the operation, a flattened fungous mass, of the size of a nut, was found encysted, as it were, in the diploë corresponding to the point upon which the blow had been received.*

e. *Sanguineous tumours which form between the cranium and dura mater.*—That variety of these tumours which has received the appellation of fungous of the dura mater, has been more particularly described than either of the preceding. Yet there are many affections to which this term is applicable, that do not fall within the scope of our observations, they being of a character entirely different from those tumours which it is our object to describe; nor does it comport with our plan, to consider those extravasations of blood, which take place in this situation in consequence of violence inflicted upon the head. Velpeau, however, seems to think, that deposites of blood not unfrequently form at this point during labour, and subjoins that he had himself witnessed two examples. If the assertion of Cruvielhier be well-founded, that at least one-third of those infants, which, healthy and vigorous previous to delivery, die of apoplexy during that process, the opinion of Velpeau would seem to be entitled to confidence.

It is likewise possible for erectile tumours, analogous to those already described, to have their origin in the space between the cranium and dura mater, and it is highly probable, that many of the cases which have been described as examples of fungous of the dura mater, and congenital hernia cerebri, were instances of such erectile tumours. In some rare instances, those tumours have been found in a state of communication with the sinuses of the brain internally, and with the scalp externally, through one or more apertures in the cranium. A very singular case of this kind has been described by Dr. Flint.† It was in a child three weeks old, upon the posterior portion of the head of which, a circumscribed fluctuating tumour was discovered, of the size of a pullet's egg, which, increasing in size, and threatening to rupture, was punctured with a lancet. Blood flowed from the puncture, and in a few minutes it ceased to bleed; but hemorrhage took place from the part at intervals, during the ensuing night, which could not be suppressed, and the child died from loss of blood. On laying open the scalp, a dense coagulum of blood was discovered, covering the occipital bone, and thinly spread beneath the expansion of the occipito-frontalis muscle. The middle of the occipital bone was found denuded, rough, and spongy, to the size of a cent piece, and was perforated immediately under the base of the tumour, and opposite the point at which the longitudinal divides to form the two lateral sinuses, by several small apertures, through which blood was made to flow freely by compressing the head. From this it appears, that the tumour was fed, through these openings, by the sinuses of the brain. Dr. Flint thinks, that the disease of the bone existed before the formation of the tumour; but this is not very probable, and it is much more likely that the tumour had its origin in a varicose state of the blood-vessels, which traversing the bone, impressed upon it the alterations presented by it after death.

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* Journal Universel et Hebdomadaire. Octobre, 1833.

† New England Journal of Medicine and Surgery. Vol. ix. p. 112. 1820.

A case is also described by Busch, which was observed in a child that had been some time dead and was delivered with the forceps. Situated over the occipital region was a bluish coloured bloody tumour, which, when it was opened, was found to communicate with the sinuses of the brain.* One is likewise reported by Hoere,† in which there were two tumours; one internal between the dura mater and the bone, the other between the latter and the pericranium, with a diseased condition of the intermediate portion of the cranium. The internal tumour was of the size of a pigeon's egg, and had formed for itself a kind of depression in the corresponding portion of the brain. The internal table of the bone, opposite to it, was diseased, and destroyed to some extent, but the process of reparation had commenced. The outer table was entire, and unaltered.

These are the principal characters and varieties of this peculiar form of disease. The influence exercised by it over the general health must of course be variable, according to the condition of the tumour, its relations with the adjacent parts, and the susceptibility of the organization. Very generally, there is little or no constitutional disturbance observed during the first stages of the disease; but after the tumour has continued for some time, the child is apt to become pallid, feeble, and heavy; it loses its natural sprightliness; has its digestive organs more or less disturbed; is restless and uneasy, especially during sleep; and in some cases, is affected with flushing of the face, and irregular febrile exacerbations. Gœlis remarks, that even in a recent case, he found the child affected with a kind of confusion or stupor; and it not unfrequently happens, after the disease has made considerable progress, that various nervous symptoms make their appearance, which arise either from the direct influence of the tumour on the brain, or from irritation excited by it being reflected upon the nervous centres. These symptoms may vary, from slight twitchings, to violent convulsions, or even paralysis. Such cases are generally attended with active febrile excitement, associated with the phenomena of arachnitis or inflammation of the brain. It should be remarked, however, that these phenomena are seldom or never observed until towards the last stages of the disease, and it is likewise only at this period, that evidences of compression of the brain, and inflammation of the dura mater become apparent; these symptoms owing their existence in such cases to the diseased changes which take place in the bone and the adjacent structures. In some instances, nevertheless, the ravages of the affection are more insidious in their march, creating but little disturbance until a considerable portion of the bone has become destroyed, and allowing extensive perforation of the skull to be produced before death takes place. Paletta, Nægele, Osiander, Kopp and others have observed cases of this kind. But while some examples of the disease are attended with some or most of these symptoms, there are others, which, until they are far advanced, give rise to no uneasiness or derangement, either general or local. Yet it may be laid down as a general rule, that whatever may be the condition of the patient during the first stages of the disease, the constant tendency is to a fatal termination, if the fluid be not absorbed, or evacuated by art.

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* Heidelberg. Klinisch. Anallen, bd. ii. p. 245.

† De tumore cranii recens natorum sanguineo et externo et interno, &c. Berol. 1824.

3. *Causes and nature of the disease.*—Those who have had occasion to observe sanguineous tumours of the head of new-born infants, have found it difficult to assign any satisfactory cause for their development. From some characters which they possess, in common with those bloody tumours or ecchymoses

which form in the same situation in consequence of contusions, writers for a long time adopted the opinion, that they owe their origin to some injury sustained by the head of the child during labour, either from pressure within the straits of the pelvis, from the contusion occasioned by the forceps or vectis, or some analogous cause. This opinion has been perpetuated by the neglect of many to discriminate between the proper cephalæmatoma, or spontaneous bloody tumour, described by several of the German authors, and those which are in reality only examples of ecchymosis produced by violence. This cause has been assigned by several respectable practitioners, amongst whom Diffenbach enumerates Becker, Carus, Capuron, Wendt and Osiander, and we may add to this list Velpeau and several others of high respectability. There are several circumstances which invalidate such a conclusion.

The tumours in question are not oftener met with in difficult labours, and those in which instruments are employed, than they are after easy and quick deliveries. Palletta* remarks, that he had never seen them after difficult labours. Nægele, who observed seventeen cases in the course of twenty years, declares, that in a large proportion of them, the labour was easy, and the tumours occupied those parts of the head that was least liable to be compressed or injured in its passage through the pelvis. He observed, besides, one case, in which the child was delivered by the feet, and others have been reported which occurred in breach cases. Siebold never saw them after difficult labours; Baudelocque seldom, and such, likewise, is represented to have been the result of the experience of Feiller, Hoere, Michaelis and Schmidt.† To this it may be added, that bloody tumours of a similar character occasionally form on the head of children at a more advanced age, and sometimes even in the adult, when no injury whatever has been inflicted. In neither of the cases which we have had an opportunity to observe, could the disease be referred to this cause, inasmuch as after the strictest inquiry, it could not be ascertained, that the subjects of them had received either blow or contusion, or any other injury upon the head. It is besides known, that sanguineous abscesses occasionally form in other parts of the body not exposed to the influence of violence. Paletta has reported many such examples, and several others might be referred to, which have been published by different individuals.

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* Op. cit. 123.

† Pigné, Journal Hebdomad. Sept. 1833.

These facts prove conclusively, that the disease cannot be properly attributed to the cause referred to above. Injuries of the kind alluded to may unquestionably give rise to extravasation of blood in the scalp, but it will be found on examination, that such tumours differ essentially from those which form the subject of these observations. They are attended with more or less discolouration of the skin; they disappear in the course of a few hours, and are not attended with the hard elevated boundary which generally circumscribes sanguineous abscesses of the head. That the long continued resting of some part of the head of the child upon the brim of the pelvis, before labour comes on, may sometimes predispose to the affection, we will not deny, yet this is a different question from that under discussion.

The hypothesis of Michaelis already alluded to; that the disease has its origin in the destruction of the outer table of the cranium, and that the collection of blood is a consequence merely of that affection, is refuted by so many facts, that it cannot be necessary to do more than advert to it. It should nevertheless be remarked, that when the tumour has its origin in the diploë, no collection of blood takes place in the scalp, until this destruction of the outer table is accomplished. But while this is admitted, it only proves, that the injury of the bone is a consequence, and not the cause of the disease. Nor is the conjecture of Baudelocque, that the extravasation of blood is a salutary act, the effect of which is to protect the brain from dangerous congestion or apoplexy, entitled to more confidence. Nægele at one time attributed the origin of the disease to a varicose state of the emissary vessels of the cranium, in consequence of which they become ruptured during parturition; but he afterwards abandoned this opinion as untenable. Pigné also seems to think they are owing to a rupture of blood-vessels, but he affirms that this rupture takes place spontaneously. In proof of this, he appeals to the authority of Baudelocque and Cruveilhier, who remark, that fœtuses are often destroyed by a vessel giving way within the cranium, even before the period of delivery.

Amidst these conflicting opinions, it is exceedingly difficult, without more positive data than we possess, to arrive at any very satisfactory conclusion.

4. *Diagnosis.*—The affections with which these tumours are most frequently confounded are, the extravasations of blood in

the integuments of the cranium, or the puffy ecchymosis of those parts, which form in consequence of injury sustained during labour, and which the Germans have denominated *caput succedaneum.* It is by neglecting to distinguish them, that many writers have been led into the error of attributing them all to contusions inflicted upon the head of the child in the act of delivery. A proper attention to the symptoms peculiar to the two affections, will render it easy to avoid mistaking one for the other. In the *caput succedaneum*, or tumours which proceed from contusion, there is a kind of infiltration of blood mixed with serum; the tumour is diffused, presents a dark livid colour; is œdematous and pits on pressure; is devoid of the well defined border which circumscribes the proper sanguineous abscess, and does not present the pulsation which sometimes exists in that disease. In some cases, however, especially when the fluid is deposited between the aponeurosis and the pericranium, or between the latter and the bone, the diagnosis will be more difficult. Still, the surrounding œdema, the absence of the prominent defining barrier, the discolouration of the skin, &c. will generally furnish sufficient data to prevent, in a great degree, an erroneous conclusion. The same marks will serve to distinguish sanguineous tumours from those containing water, which sometimes form in the same situation. Purulent abscesses may be generally distinguished by the inflammation, redness, great tenderness, and other symptoms with which they are almost always associated.

If in accordance with the plan we have adopted, bloody tumours of the scalp, and those of the diploë and parts beneath, be grouped together, it is probable that the same explanation will not hold good in reference to the formation of the whole of them. At least, there may be a slight difference in the pathological condition of the superficial and deep seated tumours,—although it may not be sufficiently great to constitute them totally distinct affections. And it may be remarked, that those which form in the diploë cannot well take place in the fœtal head, inasmuch as at that early period of life, the two tables of the cranium are so close to each other, that the diploë scarcely exists. Whatever may be the difference in the seat of the disease, there can be but little question that it consists primarily in a morbid condition of the capillary blood-vessels, and the cellular tissue through which they ramify. All who are conversant with the laws of the animal economy are aware, that under the influence of certain grades and modifications of irritation, the vessels pour out blood, instead of coagulable lymph, serum, pus, or any of the other products which they deposite under different degrees of the same process. It is difficult to determine, however, whether the collections in question have their origin in this manner, or whether the radicles of the veins, at the points at which the arteries inosculate with them, do not first assume a varicose condition, such as they present in erectile tumours, and afterwards give way, extravasating their contents in the meshes of the cellular tissue. We are inclined, from the general phenomena of the disease, to infer that both these explanations are correct, though applicable to different cases. The first is certainly the most rational, when applied to those tumours which are superficial; yet there are others in which it seems incompetent to explain all the phenomena. This is especially true of those which form between the pericranium and bone, and in the diploë of the cranium. It has been remarked above, that in some cases, a considerable pulsation or thrill can be felt in the tumour during its early stages, which disappears as the disease progresses. This cannot be very well explained upon the supposition of a mere hemorrhagic action of the capillary vessels, but is in every respect analogous with the phenomena presented by erectile tumours. The reason why the pulsation disappears at a later period probably is, that the delicate vessels being over distended, their tunics give way, and extravasate their blood, and afterwards undergo such changes, as to destroy their pulsation. Such dilatations we conceive may take place in either the arterial or venous portion of the anastomosing vessels, or in both, precisely as the same thing is observed in erectile tumours in other parts of the body. But if this explanation is probable as regards those tumours which form exterior to the cranium, it is unquestionable when applied to such as are developed in the diploë. The cases reported by Flint, Hoere and Busch, which have been already referred to, were probably of this kind, and the very valuable memoir of Breschet, previously quoted, contains numerous examples of erectile tumours or aneurisms, affecting other bones. Here the vessels are more protected by the bony casement in which they are lodged; the process of dilatation goes on more tardily, and they do not so soon give way. Hence, such tumours, when opened, generally bleed profusely, because the affected vessels have not yet had time to undergo those changes which are so speedily effected in soft parts, and which disqualify them, in the latter situation, from pouring out blood so freely.

Be this as it may, the cellular tissue also undergoes important modifications. It is destroyed, or has its meshes forced asunder at the point at which the extravasation takes place, while in the vicinity, coagulable lymph is deposited in its areolar arrangement, and becoming organized, sets up a barrier against the diffusion of the fluid, which forms the indurated circle or boundary already alluded to. This is precisely what takes place in common purulent abscesses, and it will be found, on examining the cavity of one of these bloody tumours which has existed for some time, that it, like a common abscess, is lined by a complete adventitious pellicle or membrane, which is either very vascular itself, or has a complex intertexture of minute blood-vessels ramifying exterior to it. This membrane may pour out blood, or serum, or pus, according to the degree of irritation which may happen to exist in the walls of the tumour; and all these fluids may be deposited by it in the course of the disease. Hence, when such a tumour is laid open shortly after it has formed, it generally discharges pure blood; at a later period blood and serum will often be evacuated, and if it be allowed to remain unopened, it may become the seat of a purulent deposite, as in Michel's case, to which we have referred above.

Assuming these as the pathological conditions of the disease, it is not easy to explain the causes which dispose the parts to take on such changes or modifications of action. It is possible that the resting of the head of the child upon the bony parts of the brim of the pelvis, during the last weeks of gestation, may be the cause in some cases; and that in others, the pressure it experiences during labour, may excite sufficient irritation to produce the disease. Many other circumstances may have some instrumentality, but as any remarks we could make in regard to them would be purely conjectural, we shall not enumerate them.

Much more difficulty will be experienced in distinguishing sanguineous tumours from congenital encephalocele, or hernia of the brain. Owing to the uncertainty of the diagnosis between these two affections, they have been often confounded, more especially by some of the earlier writers on the latter of these two diseases, who described cases as examples of encephalocele, which, from their own representation, we cannot avoid concluding were nothing more than instances of sanguineous abscess. This mistake was committed, as Nægele and others have remarked, by Le Dran and several of his successors, especially Trew, a writer in the Gentleman's Magazine, Detharding, Chemin, Corvinus, Gaspard Siebold, Held, Salleneuve, Thiernig, Ohme, Held, Breiting, Richter, Rosen de Rosenstein, Bernstein, Fleisch, Plenk, Schmalz, Henke, &c. A reference to all these authorities will shew, that they considered the parietal region as the most common seat of congenital encephalocele, while it is well known to all practitioners of the present day, who are conversant with such affections, that they are seldom developed, except in the course of the sutures, at the anterior or posterior fontanelle, or in the situation of some of those points which, during the first periods of the ossification of the cranium, are not supplied with bone. This fact then, together with one adverted to in a preceding part of these observations, that sanguineous abscesses are developed by far more frequently over the parietal bone than upon any other part of the head, renders it highly probable, that a very large proportion of the cases considered by writers as examples of what they called *lateral* congenital encephalocele, were nothing more than sanguineous tumours of the parietal region.

The difference observed in the locality of the two affections may afford some assistance in distinguishing them, but cannot be regarded as affording sufficient grounds for a positive diagnosis, since, as has been remarked, sanguineous tumours are sometimes developed in the course of the sutures, and upon other points which are liable to hernia of the brain. Far better criteria may be deduced from the phenomena furnished by handling the tumour, from the condition of its surrounding boundary, &c. Both are soft and spongy to the feel, and impart to the touch the sensation of a depression or defect of the corresponding portion of the cranium. Both are likewise often attended with pulsations which are isochronous with those of the heart; and in the one, as in the other, a hard well-defined border can be generally felt, which surrounds the entire circumference of the tumour. Thus far they seem to agree in most of their characters; but if these phenomena be carefully analyzed, it will be found that there are many points of difference. Thus, when pressure is made on a congenital encephalocele, the tumour can be often forced down through the opening by which it protrudes through the cranium, upon the substance of the brain; but so soon as this is done, the individual will be affected with vertigo, dimness of vision, loss of consciousness, or even convulsions. Sanguineous tumours cannot be made to disappear by this procedure, nor do they, when compressed, give rise to the symptoms alluded to. If the march of the disease be carefully observed, there can be no danger of the hard prominent boundary leading to an erroneous diagnosis, inasmuch as in encephalocele, it must always exist before the tumour can protrude,—the destruction of the entire thickness of the bone being necessary, to allow this event to take place; whereas in the case of the other affection, the tumour always forms first, and the hard boundary, or as it has been generally called, the bony circle, is only developed in consequence of the influence exercised subsequently upon the adjacent portion of the bone. Besides, when pressure is made upon the centre of the tumour, if it be encephalocele, the finger will pass down without meeting with any solid resistance, while in cases of sanguineous tumours, it is soon arrested by the solid rough surface of the bone. Although pulsation is a character common to both affections, it is feeble in sanguineous tumours, and is only present during the earliest periods of their existence, whereas in encephalocele, it is much stronger, and never entirely disappears.

There can seldom be much difficulty in distinguishing sanguineous tumours from fungus of the dura mater, the latter being destitute of fluctuation, and when forcibly compressed, giving rise to those symptoms which indicate pressure on the brain. Erectile tumours, however, developed either upon this membrane, within the diploë of the cranium, or between the bone and the pericranium, cannot be so easily distinguished, either from simple bloody abscesses, or common fungus of the dura mater.

5. *Treatment.*—The treatment of sanguineous tumours of the head may be attempted by two different methods. The first has for its object the dispersion of the tumour by promoting the absorption of its contents; the second, the evacuation of the blood by puncture or incision.

The first method should always be fully tried previously to resorting to the second. Experience has proved satisfactorily, that a large proportion of these tumours will either disappear spontaneously, after the lapse of some time, or may be dispersed by proper local treatment; and as long as any hope of obtaining this result remains, an operation should not be performed. Nearly all writers on the subject have reported many such cases, and in the memoir of Zeller already referred to, a great number will be found. Out of seven cases observed by Beyerle, six were cured in a few days by aromatic vinous fomentations, and it was only necessary to open the tumour in one. Even tumours of very large size may be sometimes dispersed. Zipp reports a striking example: He was called to visit an infant, aged four days, upon the left parietal region of which he found a cephalæmatomatous tumour, as large as an adult fist. It was discovered on the day of delivery, from which time it had continued to increase, but did not seem to affect the health of the child. The mother was healthy, and had had an easy delivery. By means of frictions with aromatic substances, practised night and morning, the tumour was completely dispersed in about four weeks.*

The choice of applications should be regulated by the condition of the part affected, and of the general system. When the child is vigorous, and the scalp, as well as the constitution in general, highly susceptible, antiphlogistics should be preferred. It may be necessary sometimes to apply leeches, and even to repeat them according to circumstances; and in all such cases, cold antiphlogistic discutient lotions may be employed with more or less advantage. The best of these will be the liquor plumbi subacetatis, vinegar largely diluted with water, a solution of either the acetate or muriate of ammonia, or any of the ordinary evaporating lotions. The hair should be closely shaved, and a fine fold of linen kept applied to it constantly, wet with the preparation employed. Ice may likewise be occasionally resorted to, but is not often so efficacious as the remedies just enumerated. Indeed most of the German authorities seem to think, that applications of a somewhat exciting character should be generally preferred, their stimulating properties being thought necessary to promote the absorption of the fluid, and produce healthy action in the part. Hence, they recommend aromatic vinous and spirituous infusions and decoctions, stimulating lotions and unguents, and other articles of a kindred character, either applied lightly to the scalp, or administered in form of frictions. When there is great languor and deficiency of energy in the tumour, and in the system generally, such applications are certainly demanded; yet it must not be concealed, that under an opposite state of affairs, they may prove highly mischievous. We are inclined to think, that the application of the warm decoction of oak bark, cinchona, &c. or frictions with mercurial ointment, which have been recommended by Diffenbach, can seldom or never be admissible. Nor do we think that it will be generally safe to keep up pressure by means of a compress and bandage as recommended by Chelius, although we apprehend that cases do occasionally occur, in which it may be both safe and beneficial.

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* Pigné, loc. cit.

These means, properly employed, will often disperse the tumour, and effect a perfect cure of the disease. Yet they will sometimes fail, and it will then become necessary to adopt a different course.

It is extremely difficult to decide how far the treatment can be safely confided to those means, the object of which is to obtain the discussion of the tumour, inasmuch as in some cases, the disease has been allowed to continue for weeks or even months, without giving rise to any very serious consequences, while in others, the cranium has become affected with necrosis or caries after the lapse of a very short period. This being the case, much injury may sometimes result from relying too long upon discutient applications, and neglecting to evacuate the fluid by a proper opening. Zeller reports a case corroborative of this principle. A child was born with a very large sanguineous tumour seated upon the left parietal region, the character of which was not understood by the surgeon in attendance, and it was consequently left to the unassisted efforts of nature. The tumour continued to increase in size, became painful, the health of the child suffered considerably, and after the lapse of some weeks, death took place. The bone was found carious, and perforated by a number of small foramina, which traversed its entire thickness.* In order not to incur the risk of these mischievous consequences, it will be advisable, when the ordinary local applications have been employed ineffectually, for eight, ten, or fourteen days, to puncture the tumour and evacuate its contents, lest by suffering the fluid to remain too long in a state of confinement, it may occasion disease of the bone, or the health of the child may become endangered by the influence of the disease upon the general system. Upon this point, then, a perfect unanimity of sentiment exists, amongst all who have written on the subject. Some have even advised that an opening should be made as soon as the tumour is discovered, and Osiander thought it should never be delayed beyond twenty-four or forty-eight hours. But to this practice there are two objections. One is, that there are many cases that disappear spontaneously, or may be cured by local applications; the other, that the parts are more vascular during the first periods of the disease, the blood more fluid, and hemorrhage is more apt to take place from the cavity.

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* Pigné, loc. cit.

There is some difference of opinion as regards the manner in which the contents of the tumour should be evacuated; some giving the preference to the seton, some to puncture and incision, while others advise the caustic. The seton was long since recommended by Moscati; and Palletta advocates its employment in preference to all the other methods. He represents, that it is unsafe to open such tumours by a free incision, but that when they are transfixed by a seton, a cure is easily accomplished without any bad consequences. Notwithstanding this authority, the practice has been abandoned, and has been by some writers very justly condemned.

Gœlis advises a stick of caustic to be rubbed upon the surface of the tumour, with the view of promoting suppuration, and exciting the requisite degree of action in the parts. The same plan has been recommended by Schmidt. Of all the means proposed, we hold this to be the most objectionable, and we doubt not, that if generally pursued, it would often occasion serious mischief. In this opinion we are supported by all the best authorities, who, with great unanimity, concur in condemning such a procedure.

Osiander recommends an incision of an inch in length, and down to the bone, to be made with a convex bistoury, in a direction transverse to the course of the ossific radii of the parietal bone. The object of the last rule is, to avoid the danger of inflicting injury upon the brain, by the knife penetrating between these rays, which it might do, if the incision should be made parallel with them. For the same reason, he directs that a lancet, a sharp pointed bistoury, or a trocar, should never be employed for such a purpose, because there is a great risk of puncturing the brain, on account of the extreme thinness of the bone. In prudent hands these precautions can scarcely be necessary, nor do we think that any important advantages can be gained by making so extensive an opening. The crucial incision recommended by some can never be necessary, and ought not to be practised.

The best plan is, unquestionably, to make a puncture of an adequate size, at the most dependent point, to allow the contents of the tumour to escape. This is recommended by Nægele, Zeller, Chelius, Diffenbach, and the best authorities on the subject, and while it secures all that can be gained by making an opening, it is not liable to the objections which apply to the other methods. There are, nevertheless, circumstances, in which it will be necessary to depart from this rule. Thus when the contents of the tumour have been evacuated, a probe should be introduced through the orifice, in order to explore the condition of the bone. If found healthy, a small tent of lint should be introduced into the puncture, to prevent it from closing until the fluid ceases to accumulate within. If the bone be found denuded, rough, and carious, a grooved directory should be introduced, upon which the tumour may be freely laid open, if not too extensive; because it will be in vain to attempt to heal it without adopting this precaution. After an opening of sufficient extent has been made, the bottom of the wound may be dressed with a pledget of lint spread with simple cerate, or any appropriate digestive ointment, which should be secured by a compress and bandage, and renewed as often as necessity may require. In ordinary cases, where only a puncture is made, a light compress should be laid over the part, and confined by an appropriate bandage.

It generally happens, after the first evacuation of the tumour, that more or less accumulation takes place. Under these circumstances, the tent of lint should be withdrawn from the puncture, in order to allow the fluid to escape, and if adhesions have formed to such an extent as to prevent it from flowing, they may be broken up with the point of a probe. After the first evacuation, the blood becomes more and more serous, and is finally supplanted by a kind of watery fluid, of a wine-lee colour, or suppuration takes place, and a small quantity of pus is discharged. In many cases, however, the walls of the cavity gradually adhere, without any pus being formed.

The applications to be made to the part, subsequent to puncture, must be suggested by its condition. Should inflammation and tenderness ensue, they must be combatted by cooling anodyne lotions, the application of leeches, and the ordinary antiphlogistic remedies. But where, as is sometimes the case, the tumour remains inactive, and evinces no disposition to heal, its powers must be invigorated by appropriate applications. The Germans generally prefer, for this purpose, warm fomentations of an infusion of aromatic plants in wine, an infusion of chamomile, a decoction of bark, &c. Diffenbach proposes, also, to cover it at night with an ointment composed of from 4 to 6 parts *unguent. rosat.* and 1 part *unguent. mezerei.* spread on a light pledget of fine lint. It has even been proposed, when the parts are very indolent, to throw stimulating injections into the cavity, in order to excite adhesive inflammation; and it was partly with a similar view, that Paletta was induced to prefer the seton as a means of opening these tumours. A case has been reported by Lobstein in which this practice was successfully instituted. The tumour was as large as a pullet's egg, and occupied the left parietal region. Having failed in his attempts to disperse it, the contents were evacuated by a puncture, and stimulating injections were thrown in through the aperture. Slight pressure was afterwards kept up, and a cure was accomplished in a few days.* Cases may occur to demand this practice; yet it should be resorted to with great caution.

A judicious application of these means will generally conduct the case to a favourable issue, without the occurrence of any unpleasant symptoms. The prognosis is indeed generally considered favourable in most cases of this affection, and is seldom otherwise, except where the disease has been allowed, by too long delay, to inflict extensive ravages upon the bone. Most writers, too, represent the opening of such tumours as perfectly exempt from danger; yet we could cite cases in which it was followed by death, even though the bone was not affected. Goelis, amongst others, speaks of such an occurrence; and Braun reports a case, in which, after a few days, the child was seized with fever and died. In the course of the foregoing remarks, we alluded to a case which recently came under our care, conjointly with Dr. Steuart. It was the child of a medical friend, and differed from the generality of such cases in the circumstance, that the subject was about two years old. The tumour was large, and notwithstanding various means were employed to disperse it, continued to increase in size, until it was thought it would not be prudent to refrain longer from opening it. A puncture was accordingly made at one of its most dependent points, and a considerable quantity of watery blood evacuated. As the bone was found to be healthy, a small tent was introduced to prevent the aperture from closing, and cold applications directed to be made to the head. On the second day, the fluid which had accumulated was again evacuated, and the same course was continued. The child, however, became feverish, and was finally seized with violent convulsions and other evidences of meningeal and nervous irritation, which, notwithstanding the free abstraction of blood, both from the arm and by leeches, the use of cathartics, cold to the head, blisters, &c. continued to recur until death took place.

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* Pigné.

As regards the treatment of those tumours which we have represented sometimes form in the diploë, or within the cranium itself, especially such as are of an erectile character, not much can be done towards effecting a cure. In a majority of instances, if they were to be opened, a fatal hemorrhage would be apt to ensue, particularly where the whole thickness of the cranium is destroyed, so as to deprive us of the advantages of compression. Still we are inclined to think, that in such cases as those reported by Flint and Hoere, and, indeed, in all cases in which the inner table of the skull is entire, if we possessed any positive means of distinguishing them from others, an opening might be safely made, and if alarming hemorrhage should follow, that it might be effectually commanded by a properly adjusted graduated compress. The enlarged vessels would then become obliterated, and the cavity might be healed up by granulation. But before such an operation is resorted to, there should be a certainty that the inner table of the bone is not destroyed, otherwise there will be no solid point, against which pressure can be made, and we should incur the danger of fatal hemorrhage.

This may be regarded as a general summary of our knowledge in regard to these sanguineous tumours of the head. It will be observed that their pathology is still involved in much obscurity, and we are not certain that we have added any thing to render it more intelligible. It may, indeed, be thought that we have erred, in grouping under this head, erectile tumours of the diploë, and parts beneath. We are not satisfied that we have acted with strict propriety in doing so, but we were anxious to direct more attention to them than they have generally received. This, in fact, has been our chief motive for publishing the paper. We are persuaded that most of our readers are not in possession of much of the published information which has a bearing on the subject, especially, as most of the English works scarcely contain any notice of the disease. Hence, if we have not added any thing to increase our knowledge of its pathology or treatment, we may perhaps have rendered them a slight service, by giving them a digest of what others have advanced upon these topics.

ARTICLE II.

Sketches of Cases. By Wm. N. Baker, M. D. Lecturer on Anatomy and Physiology, Baltimore.

Case I.—*Purpura Hæmorrhagica.*—John Beecher, aged 20, of a nervo-lymphatic temperament,—called for advice on the ninth of March. He complained of profuse and constant hemorrhage from the gums, which had troubled him for two days, and was preceded by slight rigours. He was a shoemaker's apprentice, and worked in a confined and ill-ventilated alley, sleeping at night in a small garret-room with five or six of his fellow labourers. His tongue could not be examined, being constantly covered with the oozing blood; his pulse was irritable and excited. Salts and antimony were directed in decisive doses,—iced drinks, an astringent gargle, low diet, and confinement to his bed.

March 10*th.* Patient no better—had bled prodigiously during the night;—his tongue was coated, his pulse tense, and tenderness was manifested on pressing the epigastric region. The medicine had acted freely. The patient was anxious to get up, and, to my surprise, exhibited but little debility, notwithstanding the excessive loss of blood. I determined on opening a vein, and on raising his sleeve, observed in the creases of his arm extravasated blood, of a dark venous character. On further inspection, numerous petechiæ, looking like flea-bites, were seen on the arms, chest, and other parts of the body. A vein was opened however, and cautious attention directed to the pulse,—20 oz. of blood were taken before the pulse or the patient acknowledged its loss. Ice was ordered, and the ice gargle continued. 9 p.m. Patient better; the hemorrhage continues slightly, pulse calm. Prescribed, ℞. Gum opii, acetat. plumbi, āā. grs. ij. The blood which was abstracted in the morning did not separate completely, but presented a dark, thin, jelly like appearance. 11th. Patient better; hemorrhage ceased; directed seidlitz powders occasionally, and as soon as practicable, a visit to the country. He called a month afterwards, to report himself completely well.

Remarks.—The detail of the treatment in this case is of but trifling importance, and I am persuaded might have been conducted much better. The main point is the general principle to which the disease yielded. The remedies employed were decidedly antiphlogistic. The case certainly wore an alarming aspect, and the loss of blood was so great, that I am unwilling to publish an estimate of its amount. Purpura hæmorrhagica has been conceived by some to be a disease of debility, by others inflammatory in its character. It might seem unwarrantable to generalize from a single case. But it occurred to me, that the confined and tainted air of the alley, the scanty diet, the sedentary life, the crowded garret, had so impaired the nutritive function in Beecher, as materially to impoverish the blood—the whole system was weakened and relaxed by the same cause. A chill and a fever came on, and the force of the circulation was competent to throw this thin and dissolved blood through the non-resistant capillary tubes;—non-resistant, because weakened and toneless under the operation of the remote causes. Two indications were then to be fulfilled;—to subdue the unnatural force of the circulation; and to give tone to the general system. I saw no evidence to sustain the opinion of some, that this disease consists in an inflammation of the venous radicles.

CASE II.—*Calculus in the duct of the Submaxillary Gland.*

Mr. M——— was seized with a violent acute pain under the right jaw. The submaxillary gland was enlarged, hard, and painful; the tongue was swelled and thickly covered with a tough white fur; the uvula injected and relaxed. The pain became excruciating in the side of his head and neck. He was bled largely from the arm, leeched freely, purged and put upon antimonials. 10 P. M. Patient no better;—ordered: ℞. Pulv. Dover. grs. xv. and a hop poultice. On the next morning, a calculus, as large as a small sized bean, was seen engaged in the mouth of the duct of the submaxillary gland. Its removal put a period to the patient's sufferings, which were intolerable. The constitutional symptoms were very severe.

CASE III.—*Abscess and ramollissement of the Corpora Striata.*

The history of the following case is kindly furnished by my friend Dr. F. Chatard, the attending physician; to which I have added the autopsy.

"Alice McMahon came under my care about three years ago; she was then labouring under an affection of the heart which was clearly indicated by the laboured and tumultuous action of that organ, and the extreme irregularity and intermittance of the pulse. She was treated by venesection frequently repeated, and the use of tinct. digitalis; beginning with six drops every three hours, and increasing the dose every third day. This was continued for upwards of six months, with marked benefit and almost total cessation of the palpitation of the heart, which had been heretofore very frequent. She laboured frequently under catarrhs, and complained often of pain in the chest. Some months before I saw her, she was under the care of another physician during a severe catarrhal affection. For the last twelve months previous to her death, her health had been pretty good, with the exception of one or two attacks of palpitation, attended by great difficulty of breathing: this was relieved by venesection. Three or four weeks before her death she was seized with convulsions. Not being at home when sent for, another physician was called in, who bled her freely. I did not see her until the next day, when I found her in the following condition:—total loss of speech,—quite conscious and mind sound,—paralysis of the right arm and leg, as well as the right side of the face,—the tongue when protruded, did not deviate to right or left, and appeared perfect in its movements. Finding her pulse strong, I drew a large quantity of blood from the arm. This produced no relief. Blisters, sinapisms, and stimulating embrocations were employed. The bowels were kept open. The nux vomica was employed at a later period. Under this treatment she recovered the partial use of her leg, the arm remaining the same. About a week or ten days before her death, she spoke a couple of words, but could not repeat them. Three or four days before her death she recovered her speech, and spoke, although with difficulty. On the day previous to her death, I saw her in the morning, and conversed some time with her,—she did not complain of any pain, and was cheerful. Her speech was still embarrassed but sufficiently distinct. That night I was sent for in great haste, and found her labouring under symptoms of apoplexy. She was bled freely without any relief, and expired the next morning."

Autopsy.—The frame of Alice McMahon was large and masculine. The amazonian proportions of the body, strongly contrasted with the blanched pearly hue impressed by months and years of suffering and disease. On opening the thorax, the only abnormal appearance was presented by the heart. Considerable deposites of cartilage were seen on the semilunar valves. The cranium having been removed, the pia mater was found somewhat injected, and the full cerebral veins wore an aspect by no means unusual. The medullary substance was quite vascular. But the corpora striata were the seats of more interesting disease. The corpus on the right side was softened and of a dark ashy colour. On the left side, the ramollissement was more extensive, and shaded away into the optic couch and anterior lobe of the cerebrum. The softened structure being carefully removed, a cavity was entered, occupying the centre of the striated body. Its walls were well-defined, and its area was partially occupied by a thin fluid composed of the broken down medulla, tinged here and there with the carmine of the blood, and not unlike a mixture of strawberries and cream.

We observed nothing else of note in this examination.

CASE IV. *Abscess of the Corpus Striatum and extensive sanguineous effusion on the base of the Brain.*

I regret that a detailed history of the last indisposition of Mr. T * * * * cannot be procured. He had been ill, and complained principally of pain in the head. Large bleeding and other means were directed by the able attending physician; and Mr. T. apparently recovered. For several days he had resumed his customary exercise. He took a hearty supper and a bottle of old porter, and went to bed. In the night the family were roused by the groans of this gentleman, who was found by his physician in a condition of profound apoplectic coma. Notwithstanding the speedy and large detraction of blood, the brain was overwhelmed, and the patient sunk.

Autopsy.—I removed the cranium in the presence of my friends, Dr. Steuart and Professor Dunglison, the attending physicians. The brain was firm. Both the meninges and cerebral substance were much injected. Several ounces of blood were effused on the base of the brain. The left ventricle was distended with serum, and a small quantity was found in the right. In the corpus striatum on the left side, we found an abscess, which certainly was not a recent affair. The walls of the abscess were softened, and the ramolissement extended beyond the median line. The convalescense of Mr. T. while disease was revelling in the very midst of this most delicate of structures, seems indeed surprising. This extensive excavation of the striated body, without the loss of any faculty of the mind, and without involving in its sympathies any of the organs necessary to life, would lead us to conclusions not very reputable to the functions of the corpus striatum in the animal economy.

ARTICLE III.

Dagger's Sulphur Springs.

[Fully impressed with the importance of a correct knowledge of our principal mineral waters, to the profession as well as the public at large, we shall feel greatly obliged to any one, who will communicate to us accurate and scientific information in relation to this subject. Such communications, when suited to our pages, shall be immediately published. We now insert the following account of Dagger's Sulphur Springs, which has been forwarded to us.] EDITOR.

THESE springs are situated in the county of Botetourt, about two and a half miles from the James River, sixteen miles from Pattonsburg, eighteen from Fincastle, twenty-two from Lexington, and thirteen miles from the turnpike, leading from the latter place to the White Sulphur Springs, which are distant about a day and a half's ride.

The medicinal properties of these waters have been satisfactorily tested; and certificates testifying their efficacy have been tendered the proprietors by individuals, who have experienced their healing influences; but they are not disposed to extend the testimony on that head beyond a simple statement of facts; and as these are sufficiently developed in a letter from an eminent physician who visited and analyzed them during the last season, they make the following extracts from it:

"DANVILLE, VA. *April* 28, 1835.

Dear Sir:

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I visited Dagger's Springs on the 24th of last July, and on the next day, proceeded to subject the water to a number of chemical tests. The experiments performed, though not as full, and as satisfactory as I could have wished, were sufficient to demonstrate, that the water possesses highly valuable properties, and sufficient also, to make us somewhat acquainted with the *nature* of those properties. The most active mineral ingredients in the water, are carbonated alkalies. In this it differs materially from the white and salt sulphur, and is more nearly assimilated in its properties to the red and grey sulphur. It is, however, more decidedly alkaline, than either of those springs. This peculiarity will ever recommend it to persons subject to acidities of the stomach, and to the other concomitants of dyspepsia; while the large quantity of sulphuretted hydrogen that it contains, will render it useful in all of those complaints for which sulphur water is usually prescribed.

The following experiment was performed, with the view of ascertaining the quantity of gas contained in the water. Three measures of the water were placed in a retort, and the bulb of the retort plunged in water, heated to the temperature of 108° Fahrenheit. The gas, as it was extricated, was received over mercury, in a graduated measure. The result was, that the three measures of water yielded one measure of gas. This gas was subsequently tested, and found to consist of sulphuretted hydrogen, azote, and atmospheric air—principally of the former.

The presence of iron is not detected by the usual tests; but the water, when treated with prussiate of potash, and subsequently with sulphuric acid, yields a blue precipitate, which is evidently prussiate of iron. The sulphuric acid, having a stronger affinity for potash than the prussic acid, disengages the latter. The acid thus disengaged, unites with the iron in the water, and forms prussiate of iron, or Prussian blue.

Although the water contains but about thirty-six grains of mineral substances,* to the gallon, it acts, under certain circumstances, with great promptness on the bowels. This we might infer from the nature of the ingredients with which it is impregnated; but, as experience sometimes falsifies the elaborated deductions of the theorist, I deem it necessary to establish the truth of my assertion, by reporting the result of an experiment performed with the water on my own person. On the day of my arrival at the spring, I was sensible in some degree of acidity in my stomach. As I passed the spring, on my way to the hotel establishment, I took a very moderate draught of the water, which, in less than an hour, produced a copious alvine evacuation, and kept my bowels moderately open for the next twelve hours. After my system was thus cleared out, it produced very little impression upon the bowels.

It may be laid down as a general principle, that *when there is acidity in the stomach, the water will act with great promptitude upon the bowels; but in the absence of such acidity, the action of the water is expended, principally upon the urinary organs, and*

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* The smaller of the two springs at the Red Sulphur, contains about sixty grains per gallon. The larger, which is most used, does not contain but about twenty-four grains per gallon.

the cutaneous system. Its effects upon the system are invigorating—it promotes digestion, and improves the secretions generally—it strengthens, without producing an undue excitement, and may therefore be used beneficially in some cases, in which the waters of the White Sulphur, from its stimulating properties, would prove destructive.

I would only say, in conclusion, that I was pleased with the manner in which the establishment appeared to be conducted, and with the spirit of enterprise manifested, and the taste displayed in the plan of improvement, which was kindly exhibited to me. I met with no situation among the mountains susceptible of as great improvement as that selected for the buildings. It may be made a second Eden.

I am engaged in preparing a work for the press, in which this spring will be more particularly noticed, and attention directed to objects of interest in the surrounding country. It would have been complete before this, but for the peculiarities of my situation, which allows me but little leisure for literary pursuits.

I was told of another spring, belonging to the establishment at Dagger's Spring, from which I was informed it was designed to supply the bathing establishment. From the account given of it, I have no doubt but that it is highly alkaline. I regret very much that it was not in my power to examine and test its properties.

In haste, but very respectfully, sir,
Your obedient servant,
J. S. Baker."

The opinions expressed in the above extracts, have been fully corroborated by the experience of numerous individuals, who have partaken of the waters of these springs, and experienced their salutary effects; and doubtless others will be induced to test their virtues.

SELECTED PAPERS.

ARTICLE I.

Salubrity of Pensacola. By ISAAC HULSE, M.D.

[We copy the following letter from the "Army and Navy Chronicle," for April 16, 1835; although we are not prepared to accord with the author, either, that "the *chief* element in the generation of diseases is decayed *vegetable* matter," or, that the climate of Pensacola is "the *finest* upon the globe, for consumptive persons."]

UNITED STATES' NAVAL HOSPITAL,
near Pensacola, Feb. 18, 1835.

Dear Sir,—I have had the honour to receive your letter of the 11th inst. in which my opinion is requested on certain points relative to the salubrity of Pensacola. It will afford me great pleasure at all times, to give you such information as I may possess, and in attempting on this occasion to comply with your wishes, I will begin by stating your questions:

"1st. Is there any natural cause in the situation of Pensacola to render it subject to bilious or yellow fever?

"2d. What seems to be the causes of the visitation of bilious and yellow fevers to Pensacola about once in six or seven years, after intervals of perfect health? Can these causes be remedied, and how? and at what probable expense?

"3d. Is, or is not, the climate of Pensacola especially beneficial to persons suffering from diseases of the chest—equally so with St. Agustine—and much more so than New Orleans, Mobile, or any southern cities situated on rivers, or affected by fresh water air?"

The natural causes of bilious and yellow fevers in Pensacola are extremely few, situated as it is on an arid plain, remote from any fresh water river.

The chief element in the generation of diseases, is decayed vegetable matter. If animal matter be added, the cause will be more active, and the disease will be somewhat modified. Heat and moisture must be superadded to these. The scrubby oak, the dwarf pine, and the fine sand of Pensacola, proclaim their inadequacy to the production of vegetable matter, the essential ingredient, and indeed, the *sine qua non* of the cause of yellow fever. The stream which nearly encircles the city, it is true, gives life and vigour to a growth of shrubbery; but the shrubbery is evergreen, and its leaves only drop gradually and singly, (being continually renewed by other leaves,) and are instantly immersed in that lively little stream which is ever gushing from its bed, or they find a screen from the rays of the sun in the thick shade that covers it. These springs of water are remarkable for their purity and softness: they commence nearly opposite the centre of the city, and running in different directions, form an estuary with the waters of the bay, one above, and the other below the city, about a mile from each other. It is to be observed, that the breadth of this springy ground varies from ten or fifteen, to one hundred, and even two hundred yards, and generally, though not throughout, it is a purely sandy bottom. There are some few spots only, in which rich mud is largely mixed with the sand.

This part of the subject will be left for the present, to be reverted to in the consideration of the *second question.* And here, I must dissent from the admission, that bilious and yellow fevers do visit Pensacola as often as once in six or seven years; as I do not find on record any account of these diseases reigning here previous to our times, except those given by Dr. Lind, which occurred in 1765. This author, however, only informs us that a mortal sickness prevailed in a regiment newly arrived from England. He does not mention that it affected the inhabitants, and states, that on board the ships in port every person enjoyed good health. Some of the old inhabitants of Pensacola, who are noted for accuracy of observation, inform me that they had the fever in 1811; these two, added to the visitations of 1822, '27 and '34, seem to constitute the sum of its history here, both written and traditional.

We have in possession certain facts, which lead with great readiness to the answer of the question, "what seem to be the causes of the visitations of the yellow fever to Pensacola?" And the most striking and important one is, that neither this disease nor any of its family has ever occurred here, except in consequences of the absence of rain in July and August. This circumstance is of exceedingly rare occurrence, so much so, that those months are proverbial for being prolific in copious showers accompanied with thunder and lightning. Yet it cannot be admitted, that dry weather alone at the period above mentioned, will with certainty bring yellow fever at Pensacola; for although the springs above described, become rather lower, and leave some dead vegetable substances exposed to a high temperature, those of us who are familiar with their copiousness cannot conceive that there is ever sufficient pabulum supplied from this source alone to impregnate the atmosphere with deleterious effluvia. The nuisances of the city create other impurities in the air, which united with the exhalations from the margins of the streams, form a poison sufficiently concentrated during unusually dry seasons to cause yellow fever. No one acquainted with Pensacola, will deny that the back yards of a majority of the inhabited lots exhibit a fearful accumulation of "unclean things," which remain undisturbed equally by the police and by the occupant. From the proximity of the springs to the surface, the sinks are shallow, and are very liable to overflow and "scatter their odours to the winds." There can be but little doubt that the mass of rotten sea-weed which lay upon your strand all last summer, the stench of which is still strong in our recollection, should be added to the list of city nuisances. It will be readily suggested to any one how easily these substances may be removed, and their qualities neutralized. Fifteen years ago, the city of Baltimore was visited annually with sporadic cases of yellow fever. They had their origin in local causes, which were pointed out by members of our profession, and removed by an enlightened police. Professor Potter, of the University of Maryland, has repeatedly said in his lectures, that the time was not far distant when communities would be so well informed on the subject of fevers in question, that it would be considered criminal in the authorities to allow them to occur in large cities. This prediction is now almost literally verified in his own city. This gentleman has treated the subject more ably than any other writer, in a little work "on Contagion," a work which will hand his name down with freshness to succeeding generations.

The following observations tend to prove that without the superaddition of local causes, found in the town itself, to the malaria of the marshes, yellow fever would be unknown at Pensacola.

1st. Yellow fever never originates in the vicinity of Pensacola—nor even on the very margin of the marshes, where the population is sparse.

2d. It never originates among the shipping at the anchorage, directly opposite the town. The Falmouth ship of war furnished only two cases of it to the hospital last summer, and they were officers, who probably contracted it in town. The schooner Grampus, it is true, suffered from the disease while lying in port, but she had all the materials for its causation, as it was proved, in the decayed and decomposed state of the plank of her ceiling. It appeared on board this vessel fifteen days previous to the existence of any signs of it at Pensacola.

In confirmation of the opinion that the *marsh* effluvia alone of the place is not sufficient to produce the disease in question, it may be appropriate to add the following facts. The east and west villages of the navy yard are equally exposed, as it regards the bay and the small ponds in the rear. One of them fronts the bay on the east, having a series of small ponds west of it; the other fronts the bay on the south, and has the ponds on the north. The ponds in question were dry last summer, and their bottoms presented to view a thin layer of mud. The east village did not furnish a case of sickness last autumn; but in the south village eight or ten cases of yellow fever occurred within a few hours of each other, and two of them died. The south village had the disadvantage of a slaughter house situated immediately in its rear, which was exceedingly offensive. The navy yard, equally exposed with either village, to the effluvia of the ponds, remainded perfectly healthy, with the exception of the case of one gentleman, who had a slight attack, traced to Pensacola. I was an observer here, in 1827, when no case originated at the navy yard, nor at either village.

It has been represented to me upon good authority, that the swamp or shrubbery of the springs of Pensacola, was cleared up in 1811 and 1822. We all recollect that streets were opened through in 1827, and I think it was partially cut up again, the summer before last. These are certainly remarkable coincidences. It cannot be conceived that insalubrity would follow these clearings, provided the ground were put under cultivation, but clearing without cultivation has the effect to expose the surface to the rays of the sun and heat, and probably to produce an evolution of unhealthy effluvia, which otherwise might have remained quiescent.

The causes of yellow fever, at Pensacola, therefore, are local, and are within the power of your police. They can be remedied with a little attention to cleanliness, and at a very trifling expense. The successful means, used by many cities in the United States, which were formerly visited almost annually, by this scourge of the human race, confirm our views of the nature of these causes, and inspire confidence in the efforts of man, for their removal.

For your third question, I have but little room left. Indeed, I could scarcely hope to do justice to the subject, in the space allotted to this communication, and as I propose to resume it on some future day, I will content myself with stating it as my belief, that this is the finest climate upon the globe, for consumptive persons, and offer for your consideration, two facts only. 1st, I have never known nor heard of a case of consumption originating here. 2d, I have known several desperate cases, to be cured here, with very little medical treatment.

When Don Juan Ponce de Leon came in search of this country, he sought a spring, the waters of which was to rejuvenate man.

The fable which gave spirit and animation to his enterprise, like most others among rude nations, had certain truths for its basis. The fountain of health, if not of youth, has a real existence here, and in the extent of benefit, it is destined to dispense to the human family, the bright visions of the Spanish hero will be more than realized.

I am respectfully, and truly yours,

Isaac Hulse.

To Walter Gregory, Esq. Pensacola.

ARTICLE II.

Experiments on the Blood. Instituted by L. GMELIN and F. TIEDEMANN, conjointly with E. MITSCHERLICH.*

(Translated from the German for this Journal.)

No part of the animal body is so important, in relation to chemical physiology, as the blood. Into it are received the products of assimilation; through its medium the animal body is maintained in a state of chemical affinity with the external air, and from it are formed all the organic solids, and the various secretions. An accurate knowledge of this fluid must, therefore, contribute greatly to explain the most important changes which take place in the elements of the organization, as for example those which are effected by digestion, respiration, nutrition, and secretion. These considerations have incited us to undertake the present series of experiments.

I. *Experiments relative to the carbonic acid of the blood.*—The contradictory results obtained by previous investigators have left it doubtful, whether any free carbonic acid exists in the blood. On the one side it is asserted by Vogel,† that fresh bullock's blood, when placed under the exhausted receiver of an air pump, disengaged so much carbonic acid gas as to render lime-water turbid. Scudamore‡ maintains, that the coagulation of the blood is connected essentially with a disengagement of carbonic acid gas, and in his experiments he found, that when six ounces of blood were placed under the exhausted receiver of an air pump, the carbonic acid gas which was disengaged, when passed through baryta-water, threw down a precipitate of carbonate of baryta, indicating from a third to a half a cubic inch of carbonic acid gas. According to Brand,¶ two ounces of venous or arterial blood, when placed in an exhausted receiver, evolve two cubic inches of carbonic acid gas; so that one proportion of blood would contain a little more than one proportion of this gas.

On the other hand, it was long since represented by Darwin,§ that when a ligature was applied upon two points of the jugular vein of a living animal, so as to include the intermediate portion of the blood, and the vessel placed in water at the temperature of 38° C. under an exhausted receiver, no expansion took place, which must have been the case if any gas was evolved, but on the contrary, it rather contracted.

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[*] During his sojourn at Heidelburg, in the winter of 1831–32.

[†] Schweiger Journal der Chemie und der Physique, Bd. iii. p. 399.

[‡] Versuche ueber das Blut. Würsburg, 1826, p. 83. 90.

[¶] Philosoph. Transact. 1818. p. 181.

[§] Ibid. vol. 64. p. 2.

According to the experiments of John Davy,* no gas is evolved, either during the spontaneous coagulation of the blood, under the natural pressure of the atmosphere, or when that pressure is removed by the air pump; nor did any such evolution take place when the serum was coagulated by heat. He found, on the contrary, that the serum of the blood was capable of absorbing a greater proportion of carbonic acid gas than pure water, which it could not do, if already saturated with that acid.

We have been induced, by these contradictory results, to believe, that a new suit of experiments, so conducted as to exclude all contact with the external air, could not fail to be valuable. In accordance with this view, the following experiment was performed:—The crural artery and vein of a living dog were laid bare, and into each of them a small metalic tube, furnished with a stop-cock, was introduced and secured by a ligature. To these tubes a flexible gum-elastic catheter was adapted, by which the blood, as it flowed from the artery and vein, was conducted into a vessel previously filled and inverted over quicksilver. To receive the blood, a glass cylinder closed at one end, three and a half inches long, and one inch in diameter, was employed, which was previously exhausted of every particle of air by filling it with quicksilver, and inverting it over a saucer containing that metal. In order to exhaust the elastic tube of air, the stop-cock was turned so as to allow a stream of blood to pass through it, when its free end was brought under the exhausted cylinder, in which the blood was collected with great ease. In this way, the cylinder was half filled with venous blood; and by the same process, the arterial blood was likewise collected. The experiment succeeded so perfectly, that not a particle of air existed in either cylinder. The cylinders with the blood were then transferred to the receiver of an air pump, and submitted to the influence of exhaustion.†

During the first strokes of the piston not the slightest bubble of air could be observed in either the arterial or venous blood, but as soon as the barometer stood at 27-28 inches, English, bubbles became manifest, and the quicksilver in the cylinder rose an inch and a half higher than that in the saucer, which sunk about an inch, so that its absolute elevation in the former was half an inch. On the surface of the venous blood several bubbles were observed, while on the arterial, owing perhaps to its more perfect coagulation, in consequence of a greater time having elapsed after its escape from the vessel, a large bubble appeared at first in the upper part of the cylinder, by which the level of the blood was depressed, and then a larger one between the blood and the quicksilver.

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* Edinburg Med. and Surg. Journal, vol. 29, p. 253.

† In these experiments, we acknowledge with gratitude the assistance of our friend and colleague, Privy Counsellor Muncke.

The bubbles which appeared in both species of blood on the removal of the atmospheric pressure, must have either proceeded from the vapour remaining in the vacuum, or consisted of a permanent gas generated by the blood. The first is easily possible, inasmuch as the blood was supported by a column of quicksilver one and a half inches high, which must have subsided, as soon as the elasticity of the air remaining in the exhausted receiver amounted to less than an equivalent to a column of this height;—hence the probability that the bubbles only became apparent when a perfect vacuum was produced. The question would be decided by the gradual admission of the external air into the receiver. If the bubbles were merely a torricellian vacuum, they would, under such circumstances, immediately disappear; if they consisted of a permanent gas, this must, in the first place, be exceedingly small in quantity, and would after the lapse of some time be again absorbed by the blood. On admitting the external air into both receivers, it was observed, that long before they were filled, the bubbles entirely vanished, thus proving that no permanent gas could have been present.

This experiment, by which it was shown by the removal of the atmospheric pressure from the blood by means of the air-pump, that that fluid does not contain either free carbonic acid, or any other permanent gas, is entitled to the more confidence, as all circumstances likely to have led to error were carefully avoided. The admission of the external air to the blood was effectually obviated, and the experiment was accomplished in less than an hour, under a temperature of from 5 to 10° C. so that within this time, and under these circumstances, no chemical change could have taken place in that fluid.

It may be remarked, moreover, that both the venous and arterial blood, under this state of perfect exclusion from the atmosphere, coagulated as perfectly as under ordinary circumstances, and that from the commencement of the experiment, a manifest difference of colour was observed in them. The brighter colour of the arterial blood cannot, therefore, be owing either to the frothy condition in which it is caught, as represented by J. Davy,[*] as that was here avoided, or to the nature of the coagulation, since the difference of colour was as perceptible before that change took place as afterwards.

In order to test the truth of the assertion made by J. Davy, that carbonic acid gas is absorbed in greater abundance by the serum of the blood, than by pure water, arterial blood, which had been submitted to the influence of the air pump, was gradually exposed to carbonic acid gas, without removing it from the cylinder in which it was contained, or disturbing its coagulum, care being taken at the same time to exclude the atmospheric air. Under a temperature which varied from 5 to 10° C.

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[*] Edin. Med. and Surg. Journal, No. 105. p. 243.

the absorption took place very gradually by the blood, which was not agitated, and did not become very manifest before the lapse of five days. It was now found, that 100 parts of blood had absorbed 120 parts of carbonic acid gas; and after the lapse of ten weeks, during which the experiment was kept up under a temperature of 10° C. 16 parts more of gas were absorbed, amounting in all to 136 parts. Although the determination of the quantity absorbed could not be determined with critical accuracy, the result was sufficient to confirm the truth of Davy's assertion. After this protracted contact of the carbonic acid gas with the blood, about one half of that fluid was converted into a dark red coloured coagulum; the serum was somewhat transparent, and was tinged of a dull colombine red, by the solution of the colouring matter of the blood which was suspended in it.

In order to confirm the results obtained from this experiment, we devised another, somewhat different in its details. We were particularly desirous of ascertaining, as the blood does not contain free carbonic acid gas, whether it possesses any in a state of combination.

The venous blood of a dog was collected precisely as in the last experiment, except that it was received into two cylinders, previously exhausted over quicksilver, into one of which a small quantity of concentrated acetic acid, previously boiled, had been introduced. The same course was pursued with the arterial blood.

In the arterial and venous blood which was not mixed with the acetic acid, the same changes were observed, when they were submitted to the influence of the air pump, as in the preceding experiment. So long as exhaustion did not bring the barometer to 26 English inches, no bubbles could be perceived; but when it reached 26½ inches, a void space was formed, and the quicksilver rose in the cylinder, beneath the blood, 2½ inches—a greater height than on the last experiment. This void space was formed partly above and partly below the coagulated venous and arterial blood, and was not attended with the disengagement of any bubbles from the interior of the mass of those fluids: it disappeared as soon as the smallest quantity of air was admitted into the receiver.

From the arterial blood which had been mixed with the acetic acid, beneath which the column of quicksilver also rose 2½ inches, a number of small bubbles escaped, as soon as the strokes of the air pump brought the barometer to 20 inches English, and when it reached 25 inches, a void space formed in the cylinder, above the column of blood, equal to one-third its height. On the admission of air into the receiver, a small quantity of gas still remained in the cylinder, but, in a few moments, entirely disappeared. The same phenomena were observed in the venous blood which had been mixed with acetic acid, except that the bubbles were not disengaged until the barometer stood at 23½ inches, and when it stood at 25 inches, the void space formed by the gas above the column of blood, equalled one half the height of the column of that fluid. On the admission of air into the receiver, larger bubbles remained than in the arterial blood, although the quantity of venous blood used was smaller.

This experiment proves, that both venous and arterial blood contain carbonic acid gas in a state of combination, the quantity of which is greater in the former than in the latter. The alkaline properties of the blood are, therefore, not derived so much from the pure alkalies, as from those salts in a state of union with carbonic acid.

The arterial and venous blood which had not been mixed with acetic acid, were exposed to carbonic acid gas, as in the last experiment. At the end of three weeks it was found, that 100 parts of arterial blood had absorbed 140 parts of carbonic acid gas, while the same quantity of venous blood had only absorbed 111 parts. On account, however, of the thick consistence and dark colour of the blood, and the smaller quantity employed of the one than of the other, the results cannot be considered as entirely certain. The parcels of arterial and venous blood which had been mixed with acetic acid, after standing three weeks over quicksilver, were found converted into firm brownish mass, without any separation into serum and crassamentum.

Shortly after the termination of these experiments, which were performed in the course of the past winter, we obtained the valuable paper of Ed. Ch. F. Stromeyer,* from which we learned with great pleasure, that by a different series of investigations, he had arrived at the same conclusions, viz. that the blood does not contain any free carbonic acid gas, but holds a certain quantity of it in a state of combination.

By these concurrent results, we may regard the question relative to the existence of carbonic acid in the blood, as fully decided. Let us next compare them with the principal theories of respiration, in order to see how far they will harmonize.

Lavoiser† supposed that the blood, without any direct contact with the atmospheric air, exhales into the bronchial tubes, through their lining membrane, a kind of halitus, composed essentially of carbon and hydrogen, which in coming in contact with the oxygen of the inspired air, is converted by a species of combustion, into carbonic acid gas and water.

In so far as this theory does not suppose the existence of free carbonic acid gas in the blood, it comports very well with the results of our experiments. Other considerations, however, render it exceedingly improbable. In the first place, the exhalation of this moisture from the lungs, composed, as is represented, of carburetted hydrogen, and which is combustible at a temperature of 38°, has never been proved. Moreover, the capability of a gas to penetrate a moistened animal tissue, and thus to come in direct contact with the blood, as shown by the experiments of H. Davy, cannot be questioned. He concluded from his experiments,* that the air traverses the moistened tunics of the vessels of the lungs, and is taken up by the serum; that a part of the oxygen enters into combination with the carbon of the blood, to form carbonic acid, while the other part unites with the cruor; finally, that the blood throws off the whole of the azote inspired, together with the carbonic acid formed by the combination of the oxygen with the carbon. Finding, moreover, that when hydrogen was respired, carbonic acid gas was thrown off, although in smaller quantity than in ordinary respiration, he inferred, that the venous blood, in the condition in which it returns to the lungs, contains a certain proportion of free carbonic acid.

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* Schweigger Journal fur Chemie and Physik. Bd. 64. p. 105.

† Mem. de l'Acad. dés. Sc. année 1790, p. 601. ubers in Scherer's Jour. der. Chem. Bd. 10. 560.

If this hypothesis were well founded, as much carbonic acid should exist in the arterial blood, as, under the natural temperature of the body, would be in relation with the quantity contained in the air expired from the lungs, which would not be inconsiderable, since it appears from our experiments, that cold blood is capable of absorbing more than its own volume of carbonic acid gas, which would, according to this conjecture, be set at liberty. Against this hypothesis it may be urged, that owing to the velocity of the circulation of the blood through the lungs, only a small proportion of it could be exposed to a full play of chemical affinities between itself and the air inspired, and that the proportion charged with carbonic acid would be so small, compared to the whole mass, that owing to the affinity of that gas for the serum, it could not be disengaged even by the removal of the atmospheric pressure. A still more forcible objection may be urged against this conjecture of Davy's, relative to the existence of free carbonic acid in the blood: if the venous blood disengages no free carbonic acid gas in a vacuum, there can be none expired in consequence merely of the contact of the blood with hydrogen or other gases.

The hypothesis of Davy is, therefore, at variance with the results of our experiments,—since it is evident, that if the existence of free carbonic acid in the blood be denied, the whole of that gas which is expired must be the product of the direct combination of the oxygen with the carbon of the blood. Nor is the conclusion natural, that the azote which is taken in by the lungs enters into combination with the blood, and is again exhaled or thrown off by that fluid, since there is nothing to justify such an inference.

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* Physiologisch Chemischce Untersuchung. ueber des Athmen. Lemgo, 1814, p .113.

Legrange, like Davy, supposed that a direct contact is established between the atmosphere and the blood, through the thin tunics of the vessels; but he concluded, that this does not give rise to the immediate generation of carbonic acid gas. According to his hypothesis, the oxygen mingles with the arterial blood, and is conveyed with it into the different parts of the body, in its course through which it combines with the carbon of the blood, and generates carbonic acid gas, so that the venous blood, when it arrives at the lungs, parts with this gas, and is thus prepared to receive a fresh dose of oxygen.

However much this theory may be corroborated by the equal diffusion of animal heat, and the necessity of the arterial blood in the perfect execution of the animal functions, it cannot be reconciled with the facts established by our experiments. If, as is here assumed, the venous blood contains so much free carbonic acid gas, as to be able to part with it under the ordinary pressure, in merely coming in contact with the atmosphere, it certainly ought to disengage it much more readily, when that pressure is removed. According to this theory, moreover, the arterial blood must contain free carbonic acid gas, since a fluid charged with carbonic acid, included in a closed vessel with common air, is only capable of throwing off a part of the first of these principles. Moreover, if the hypothesis were true, the arterial blood should part with its oxygen under the air pump, with the same facility, that air in a state of mixture with other fluids, is set free under the same conditions. The non-conformity of all these circumstances renders the truth of the theory of Legrange exceedingly doubtful.

We may be allowed, therefore, to frame a hypothesis which will harmonize better with the facts which have been thus far established. If it be assumed, that the greater part or all of the properties of the secreted fluids are not dependent upon the acts of the secreting organs, but come to them already formed in the blood, it follows that they must be either derived from the aliment, or owe their origin to certain changes impressed upon it within the body. These changes are probably effected in part during the process of digestion, and on other occasions, but are doubtless chiefly accomplished in the lungs, by the direct contact of the blood with the atmosphere. Most of the animal fluids which are exposed to the external air, generate, by the absorption of oxygen, either acetic or lactic acid. The development of these materials is favoured by a high temperature, as is proved by the well known tendency of milk to become acid. The acetic or lactic acids are found in the blood, and in most of the animal secretions, either free, or in a state of combination with their alkalies; and as neither of these acids exists in so large a proportion in the aliment, as in the fluid of perspiration or the urine, they must be formed in some part of the body; and where can this take place more readily than in the lungs, in which the conditions favourable to the generation of acetic acid, viz. a high temperature, and a free communication with the external air, so fully exist?

We learn from our experiments, that the arterial and venous blood contain no free carbonic acid, but that that principle exists in a state of combination with their alkaline salts. If, as we have conjectured, acetic acid be generated during the acts of respiration, the venous blood should contain more carbonic acid than the arterial, since by the generation of acetic acid, a portion of the carbonated alkaline salts must, by the displacement of the carbonic acid, become converted into acetates. The results of the experiments detailed above seem favourable to such a conclusion, but in order to obtain more positive data, the following was instituted:—

By means of the apparatus described above, 48 grammes of venous, and 152 grammes of arterial blood were introduced into two capacious retorts. A quantity of concentrated acetic acid, previously boiled, amounting to one-third the quantity of the blood, was introduced into each, and the retorts were luted to a bent tube, the other end of which communicated with a bottle containing baryta water. To this a second bent tube was attached, communicating with another vessel also containing baryta water, and closed with paper to exclude the air. The retorts were at first exposed to the heat of a water bath, in which all but the upper parts of their necks were immersed, and afterwards directly to the flame. The contents became thick and swelled up considerably, and the bubbles of air, which after some time were generated, passed over into the baryta water. After being exposed for eight hours to the heat of the water bath, the mass almost ceased to give out carbonic acid gas, and the experiment was consequently terminated. The carbonate of baryta which had been formed during the process, was immediately collected in a closed filter, and washed. After the products had been dried, it was found, that the carbonate of baryta obtained from the venous blood, amounted to 0.264 gramme; that from the arterial, 0.566 gramme, whence it may be inferred that 10,000 parts of venous blood contain at least 12.3, and the same quantity of arterial blood, 8.3 parts of combined carbonic acid, and that the relative proportion of this acid in the venous and arterial blood is as 3 to 2.

This experiment is so far favourable to the conjecture offered above, as it shews, that the acetic acid generated by the process of respiration, is sufficient to decompose one third of the alkaline carbonates contained in the venous blood. Still, a number of experiments, conducted under different circumstances, would be necessary to justify a positive conclusion. The difference in the quantity of venous and arterial blood employed, the size of the retorts being the same, may possibly have exercised some influence over the results obtained.

Let us, finally, arrange these considerations on respiration into the following corrollaries:

1. The air taken into the cells of the lungs in respiration, traverses the moistened membrane of the blood-vessels, and is thus brought into a state of direct contact with the blood.

2. The azote is but sparingly absorbed by the blood; hence a very small quantity of it penetrates the tunics of the vessels, by far the greater proportion remaining in the air cells of the lungs. Oxygen, on the contrary, is taken up abundantly by that fluid, and it consequently traverses the tunics of the vessel with a freedom proportionate to the affinity displayed for it by the blood. The air, therefore, which remains in the cells of the lungs, contains a greater proportion of azote, and a smaller proportion of oxygen, than that inspired.

3. The oxygen which is received by the blood, enters partly in combination with the carbon and hydrogen of that fluid, and generates carbonic acid and water, which are thrown off by expiration; while the other part combines directly with the organic particles of the blood. In both ways, it changes the chemical affinities of the organic composition of the blood, and enables them to form other compounds. Amongst these compounds, the acetic and lactic acids deserve particularly to be mentioned, as they decompose a part of the carbonated alkaline salts of the blood, setting free the carbonic acid that was combined with them, and thus prepare it to be thrown off by the lungs.

4. The acetate of soda which is thus formed during the transit of the blood through the lungs, is deprived of its acetic acid by the several secretions, especially by those of the skin and kidneys, and again combines with carbonic acid, which during the circulation of the blood through the body is generated by the decomposition of its organic elements. Carbonate of soda is thus regenerated, and conveyed to the lungs.

According to this theory, it is easy to comprehend, why, when the venous blood is brought under the vacuum of an air pump, no carbonic acid gas is disengaged, since it does not involve the necessity of the existence of this gas in a free uncombined state. But the reason why the arterial blood should present the same phenomenon is not so easy to explain. As, according to our hypothesis, carbonic acid gas is generated, in part by the oxygen taken in, and is partly set free by the decomposition of carbonate of soda by the acetic acid formed in the lungs, it can scarcely be supposed, when the freedom with which the serum of the blood absorbs this gas is considered, that the whole of it can be expired. It is more probable, that a portion of it must be retained by the blood, the quantity of which will be determined by the capacity that fluid possesses to absorb it under a given temperature, and the quantity and affinities of the air which may remain in the cells of the lungs. At least, it must be considered, as we have previously remarked, that only a portion of the blood, while it is circulating through the lungs, can be in a convenient condition to be acted upon by the air. Only this portion, therefore, can contain any free carbonic acid; so that in commingling with that part of the arterial blood which passes the lungs unchanged, and which contains soda in the state of a subcarbonate, the free carbonic acid may combine with this salt, converting it into a bicarbonate, thus explaining the reason why carbonic acid gas is not given off, when the arterial blood is placed under the exhausted receiver of an air pump.

The further extension of this theory, and the explanation of several difficulties which it involves, would require more extensive disquisitions.—*Tiedemann und Treviramus, Zeitschrift für Phisiologie, bd.* v. *heft* 1.

[The memoir from which we have translated these observations, contains two additional sections, comprising some very interesting experiments, instituted with the object of detecting the existence of urea in the blood after the extirpation of the kidneys, and of deciding whether that principle, and the sugar of milk, exist in the healthy blood. We shall give these in our next.—EDITOR.]

New process for purifying Benzoic Acid. By GIOVANNI RIGHINI.—Dissolve the acid in four or five times its weight of sulphuric acid, diluted with six parts of water. During ebullition, add a very small quantity of the purest animal charcoal, filter it, and while cooling, the acid will separate in crystals. Should long beautiful needles not be found, and should it still possess an odour, the operation must be repeated. Collect the crystals on a filter, remove the sulphuric acid by washing, and leave them to dry in the shade. Sulphuric acid dissolves the rezin and oil, which renders the benzoic acid impure.

To have this acid in beautiful crystals, dissolve in alcohol that which has been previously purified, and put the solution in a subliming apparatus, placed in a sand bath. Manage the fire in such a manner that the alcohol alone shall be volatilized, and long needles, perfectly white, and without odour, will be obtained.—*Gazetta Eclettica di Farmacia.—Edinburgh Medical and Surgical Journal, April,* 1835.

COLLECTANEA.

Apis vero ratio media est; quæ materiam ex floribus agri et horti elicit, sed tamen eam propria facultate vertit et digerit.—Nov. Org.

1. *Erectile Tumour with a bony Nucleus.*—M. Lisfranc lately shewed the Academie de Medecine, an erectile tumour, which he had taken from a young man twenty-four years old. It had only been two months in growing, was situated on the face, and was only the size of the tip of the little finger. But what rendered it remarkable was, that it included a concretion of the size of a hemp-seed, which was bony in its nature. The tumour was seated altogether in the cellular tissue.

M. Lisfranc incidentally remarked, that, in operating on nævi, unless at least two lines of the surrounding sound tissue was taken away, the nævus almost always re-appeared in the cicatrix, in part or altogether. He applies the same principle to all erectile tumours, unless the locality fails to allow it.—*London Medical and Surgical Journal, April,* 1835.

2. *Obliteration of the Intestine at the Ileo-cæcal Valve; Sac from the Ileum, containing* 92 *leaden Shots, and* 120 *Plum stones.*—Læmi, aged 32, entered the Hôtel Dieu on the 12th of January, 1833. He had been ill for a month, and complained of pains in the belly; he had constant nausea and frequent vomiting; by the rectum, he was only able to pass a small quantity of liquid matter, and that after considerable efforts.

The pulse is natural, as is also the respiration; the tongue is healthy, the epigastrium free from pain; there is a dull sound in the centre of the abdomen; the stools are liquid and yellow. These symptoms, added to the emaciation, originated a belief in the existence of an affection of the mesenteric glands and vessels. The patient remained in this condition a fortnight; the vomiting ceased, but the state of the abdomen and of the stools were the same.

He left the Hospital on the 2d of February, and in three days again entered. There was then observed in the right iliac region, and approaching the umbilicus, a middle-sized, unequal tumour, which moved under the hand. This circumstance rather tended to confirm the former diagnosis, and no doubt was now entertained of the existence of a tuberculous affection of the mesenteric glands. (Iodurated ointment was rubbed upon the abdomen, iodine given internally, and emollient clysters administered.) On the 10th of February, the tumour was treble the size it had been the night before; was hard but less mobile than before; handling caused pain in it. The difficulty of passing a stool was extreme. The 15th, sensibility over the whole abdomen is very great; the hand applied over the tumour is insupportable; there is vomiting, small and rapid pulse, contracted features; the patient is in a state of utter fear and anxiety, and raves about shots and death; he might have been considered delirious, but in other respects he gave every evidence of sound intellect. The following morning the peritonitis had acquired a high degree of intensity; the patient had not a moment of quietude. He died in the course of the day.

Dissection 26 hours after death. From 15 to 18 ounces of a reddish fluid are in the peritoneal sac; recently formed false membranes, and all the usual marks of peritoneal inflammation. The small intestine is enormously dilated, whilst the colon and rectum are diminished. At the junction of the ilium with the cæcum, a sac as large as the head of a fœtus is found thrown towards the umbilicus, and covered with the mass of the small intestines. Adhesions, some old, others recent, keep it fixed to the posterior surface of the abdomen, the mesentery, and some intestinal folds. The parietes of this sac are thick and of a brown colour; on opening it, 120 plum-stones and 92 shots are seen. The stones are black, and as it were macerated in the liquid matters in which they float; in other respects they are unchanged, and contain each a fresh kernel. The shots, of size No. 2, are also blackened, and were here and there depressed. There are also some cherry stones. The sac in which they are contained is continuous with the ilium, and seemed to be formed at the expense of the latter. The ileo-cæcal valve, which corresponded to the right and lower portion of the sac, was almost entirely obliterated, and only exhibited a very small perforation through which liquid matters alone could pass. The mesenteric glands were perfectly healthy, and none of the other organs had any morbid appearances.—*Gazette Medicale, February,* 1835.—*Ib.*

3. *Cyanosis from a communication between the right and left ventricles of the Heart.* By A. Boyer.—A case of this kind occurred recently in the wards of hotel dieu. The subject of it was a young woman who had been affected with blueness of the skin from her infancy, but without any alteration of heat of the surface, or material disturbance of function. At the age of puberty, she was attacked with anasarca and extreme oppression. Her strength declined gradually, and she finally died, without any thing particular being revealed, either by percussion or auscultation. On examination of the body a large communication was found between the right and left ventricles; the foramen ovale, however, was perfectly obliterated. The aorta was smaller than natural; but the pulmonary artery was considerably increased in size, and the lungs were gorged with dark coloured blood. It may be inferred from this case, that hematosis is not the only efficient source of animal heat. The blood of this young woman must have been imperfectly oxyginated, yet the skin, even to the last period of her life, retained the natural temperature, which contrasted strongly with its blueness.—*Gazette Medicale, Decemb.* 1834.

4. *Method of treating Aneurismal Tumours.* By Mr. Phillips.—The essay commences by showing the necessity of inventing some operation for the cure of aneurismal tumours, by which the mortality attendant upon that of Hunter may be lessened, if not entirely avoided.

This necessity is based upon the following facts:—I have selected, indiscriminately, from the medical journals of the last ten years, 171 cases of aneurism affecting the larger arteries, which were submitted to the Hunterian operation; of these cases, 57, or exactly 1 in 3, were unsuccessful; and of these, with the exception of 2, all died, not of the disease, but in consequence of the operation.

In the cases which were ultimately successful, secondary hemorrhage occurred 16 times.

I selected, quite as indiscriminately, from Lancisi, Scarpa, Pelletan, Boyer, and others, 29 cases in which the ligature was applied according to the ancient method, and of these only 7 were unsuccessful. So that if the only question involved were that of mortality, the evidence here offered would be in favour of the old operation.

Of the cases operated on after the method of Hunter, in 27 the ligature was applied to the iliacs 20 times successfully; in 39 it was applied to the carotids 26 times with success; 37 times to the subclavian and axillary arteries, of which only 18 succeeded; 53 times to the femoral, of which 39 were successful; 15 times to the humeral, of which 11 succeeded.

In the cases which were treated after the old method, the ligature was applied to the femoral 22 times, of which 16 were successful; 7 to the humeral, of which 6 succeeded.

The wholesale result, then, of 171 cases of aneurism operated upon by the method of Hunter, within the last ten years, has given us a mortality, almost always consequent upon the operation, of 1 in 3.

If we look at an operation in appearance much more terrible, we shall find a much less mortality;—I mean lithotomy. I have resorted to an exactly similar mode of collecting 537 cases of persons who submitted to this operation, and I find, as the result, that 431 were cured, or more than four-fifths.

When we consider, too, that there are few successful cases which are not made public, whilst unsuccessful ones are often unrecorded, it does appear to me that I am borne out in the statement, that the Hunterian operation is not so successful as to justify us in resting satisfied with it.

The next question which is put is—what is the immediate cause of obliteration? the answer to which is, the existence of a certain quantity of inflammation in the parietes of the artery.

In the absence of the ligature, or of any other foreign body, if inflammation be developed in the parietes of an artery, the common, nay, almost invariable, consequence is a complete obliteration of the canal.

In support of this statement, among other observations, cases of *gangrena senilis* and *ergotism* are detailed.

Idiopathic inflammation of the internal tunic of arteries is very rare, and it is not easily excited even by the introduction into the tube of certain mechanical agents.

Inflammation of the external, or cellular tunic, may be excited at will by mechanical irritation; and when excited, produces almost invariably the following results: an exhalation of a fibrino-albuminous matter, and sometimes even of pus, between the arterial tunics, by which the calibre of the canal is considerably lessened; a rosy colour of the internal tunic; a coagulation of the blood contained in the canal; and an exhalation, upon the internal surface, of an albumino-fibrinous matter, which is presented under different forms.

After having very fully established the correctness of the preceding data, it occurred to the author that if he could devise any means by which he could excite inflammation of the external tunic, that the exhalation, coagulation, and obstruction, must follow.

To confirm that position a series of experiments were made, by introducing needles into the arterial tunics; and it was clearly demonstrated that the common effect of introducing these bodies through the arterial tunics was to excite the phenomena which have been already described.

This mode of exciting the necessary inflammation was abandoned, from the absence of any certainty that the arterial tunics were punctured.

The next series of experiments were performed to shew that the mechanical effects produced by a needle, within the canal of the artery which it had perforated, were not necessary to the success of the experiment.

In these experiments an incision was made upon an artery, and a small pellet of lint placed in direct contact with it. No injury was inflicted upon the artery by the operation, and the lips of the incision were immediately brought together.

On the second or third day the same series of phenomena as those which have been already described were produced.

As the desire of the author was to avoid all cutting, and yet to acquire a certainty that the arterial tunics were implicated, he at last resorted to the mode which has lately been stamped with the approbation of the Institute of France.

In the greater number of the cases of aneurism, the external, or cellular tunic of the artery, is a principal element in the composition of the sac; and whether that tunic be distended or not, its nature is unchanged, and its susceptibility to inflammation is the same; and where the aneurism is diffused, no long time elapses before its further progress is arrested by a cellular tunic of a new formation.

The cases, which will be detailed when the report is completed, fully justify the foregoing statements.

The operation as now performed, is to pass directly through the sac one, two, or more needles, each armed with a double thread of silk, which is permitted to remain there for a certain number of hours.

In all the observations which have been made, it has happened that within sixty hours a sufficient quantity of inflammation has been developed to produce the effects which have been detailed. If in any case those effects be not produced within sixty hours, the threads may be drawn backwards and forwards, so as to excite any quantity of inflammation which may be desired.

Commonly within forty hours the effects will be occasioned: heat will be developed, and a blush will be manifested along the course of the artery, as well as a dull pain extending for a short distance. When these effects are evident, the threads should be removed; and if the heat and pain be considerable, a few leeches should be applied.

As soon as coagulation is produced, the tumour follows the same course as after the Hunterian operation.—*Lond. Med. Gazette, April*, 1835.

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5. *Hydriodate of Potassa in Periostitis.*—Some time ago, Dr. Williams published a paper in the London Medical Gazette, containing a favourable representation of the efficacy of this remedy in the treatment of periostitis. We find in the last number of that periodical, several very interesting cases of that painful affection reported by Dr. Clendinning, in which the hydriodate

of potassa was employed with the most happy effects. It was administered in doses of 5 to 15 or 20 grains, three times a day, and in one case as much as 30 grains was given at a dose, under the direction of Dr. Elliotson. Dr. Clendinning remarks, that he has also used it with great advantage in chronic articular rheumatism.

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6. *Vicarious Menstruation by the Lungs.*—N——, aged 32 years, fell into a pond, two years ago, when menstruating; the menses were immediately suppressed, and a copious hæmoptysis supplied the place of them, and became strictly periodical. Fifteen months ago she became pregnant, and during the whole of her pregnancy, during her confinement, and all the time of suckling, no spitting of blood occurred; but immediately on her weaning the child it returned.—*Hufeland's Journal der Practischen Heilkunde.*—*London Medical and Surgical Journal, April,* 1835.

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7. *M. Carron de Villard's Ophthalmic Ointment for the treatment of Scrofulous Conjunctivitis.*

℞ Ol. Hepatis Rajæ ℥ i.
Cyanid. Ferri grs. xxiv.
Cyanid. Hydrarg. grs. viii.

Mix the oil cautiously with the cyanides, previously well levegated, and then add

Ol. Essent. lauro-cerasi gtt. iv.

To prepare the oil of the ray, it will only ben ecessary to take a sufficient quantity of the liver of that fish, and submit it to a slow heat, until it is so far prepared, that the oil can be obtained by expression. It is of a dark colour, and resembles very nearly the cod liver oil, except that it becomes concrete on cooling. To give it more consistence, when this is necessary, a small quantity of spermaceti, or palm oil, may be added.

This ointment possesses very active properties, and in its employment, those precautions which it is necessary to observe in applying all active agents to the palpebræ and ball of the eye, must not be neglected. At first, only a small quantity should be used, rubbed down with an equal portion of cerate; but in proportion as the eye becomes accustomed to it, the strength may be increased.—*Bulletin General de Therapeutique, December,* 1835.

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8. *Epidemic Catarrhal and Blennorhagic Ophthalmia of Infants.*—M. Chardon fils represents, that he found the following treatment very successful in this affection. One grain of corrosive sublimate in two ounces of distilled water, for a collyrium. Internally, from four to eight grains of calomel, with as much jalap, were given in the course of the day. In some cases leeches were freely applied to the thighs. Under this course of treatment, not a single case terminated unfavourably.—*Lancette Français, December*, 1834.

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9. *Creosote as an anti-emetic Agent.*—In a paper recently communicated by Dr. Elliotson, to the Royal Medical and Chirurgical Society of London, on the internal employment of this agent in several diseases, he remarks, that he knows no medicine at all to be compared to creosote in arresting vomiting, and that he had repeatedly known it succeed when prussic acid had failed. It has proved in his hands equally powerful to arrest vomiting when present, and

to prevent it when threatening. In dyspepsia, also, characterized by pain, acidity, nausea, &c. he has found it very useful: but he has observed flatulency aggravated by it. It was given in doses of two or three drops at first, diffused in watery mucilage, and was gradually increased to ten drops or more. He found it useful also in several cases of neuralgia, and diabetes; and used in form of inhalations, composed of from 5 to 15 drops in a pint of water, he obtained good effects from it in chronic bronchitis; but in phthisis it was found to be powerless, except, that when inhaled, it sometimes rendered the respiration freer, and prevented expectoration.—*London Medical Gazette, March*, 1835.

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10. *Plaister employed in the Treatment of Whooping Cough.* By M. Corsin.—Having recently obtained very prompt and happy effects in several cases of whooping cough, by the application of the plaister described below to the spine, between the shoulders, I have felt it my duty to communicate the facts to the public, persuaded that the composition comprises all the properties requisite to insure its success.

℞ Emplast. Cicutæ, ℥ i.
Emplast. Pic. Burgund.
——— Diachyl. ā ā ℥ ss.

M. The mass should be spread uniformly on chamois leather, and sprinkled with 6, 8, 10 or 12 grains of tartar emetic, according to the age of the child.

This plaister applied within the first week after the attack of the disease, as well during the last epidemic as the preceding, produced constantly, in the course of 24 hours, active rebefaction and the development of small pearly pustules similar to those produced by the ointment of Autenreith, and occasioned a marked abatement of the number and violence of the paroxysms of coughing, and the vomiting which attended the disease.

When resorted to during the second or third week, in cases which had been previously treated with soothing expectorants, to which, as the disease advanced, aromatics and gentle tonics were added, the plaister, aided by these internal means, either arrested the disease in a few days, or it was greatly mitigated and its duration shortened.—*Lancette Français, Dec.* 1834.

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11. *Liquid Hydrosulphuret of lime, prepared by M. Deherde, for the cure of Itch.* By M. Lutens.—The inconveniences which attend the employment of the ordinary preparations of sulphur, decidedly the most effectual agent we possess, in the treatment of this disease, induced M. Morren to endeavour to discover some preparation which would not be liable to so many objections. This he thinks he has found in the liquid hydrosulphuret of lime, which has been extensively employed in several public hospitals, with very great success. M. Lutens has also used it with the most happy results in the Hôpital de Grand. Deherde recommends the following process for its preparation, and the subjoined directions will explain the rules to be observed in its administration.

Take one part of sulphur, two parts of subcarbonate of lime, and nine parts of water, boil them in an earthen vessel to complete saturation; then decant the liquor, and filter. Frictions with this liquid are to be employed three times a day, an ounce and a half being employed each time. A cure is generally effected in about three days. In the course of a month, about eighty itch patients were treated at the Hôpital de Grand by this remedy, all of which were cured within an average period of three days. The fluid is transparent, of a deep brown colour, and has the odour of sulphuretted hydrogen. When rubbed upon the skin, it leaves an orange yellow stain, which disappears in a few hours. On the first day, it produces considerable itching, which is especially experienced after completing the frictions; and all the pustules are cauterized, as though they had been acted on by a concentrated acid. No excoriation or exfoliation of the cuticle will be produced, unless too much of the liquid is employed, or it is repeated too often; the wearing apparel and the bed clothes are not injured; the exhalations produce no deleterious effects, and a cure may be obtained at the trifling expense of a few cents. M. Lutens has also employed the liquid hydrosulphuret of lime with advantage in other cutaneous affections.—*Bulletin Medicale Belge, Février,* 1835.

12. *Employment of Lactic Acid in Medicine.* By M. Magendie.—The lactic acid being one of the efficient agents in the dissolution of the food in the stomach, it occurred to me, that it might be employed with advantage in dyspepsia, or in cases of simple debility of the stomach. With this view I have administered it both in form of lemonade and pastilles. The following are the formula which I have generally employed:

Lactic Lemonade.

℞ Liquid lactic acid,	ʒ i—4.
Water,	℔ i.
Simple syrup,	℥ ij.

Pastilles of Lactic Acid.

℞ Pure lactic acid,	ʒ ij.
Powdered sugar,	℥ i.
Gum Tragacanth,	qs.
Oil of Vanilla	gtt. iv.

To be made into Pastilles weighing half a drachm each, which should be kept in a close vessel.

As many as six of these pastilles may be taken in the twenty-four hours.

On account of the promptitude with which the lactic acid dissolves the phosphate of lime, it is reasonable to presume, that it might be employed with advantage, in the treatment of urinary calculi which are composed of that substance. I have not yet tried its efficacy in these cases, but propose to do so on the first opportunity.

I have commenced a series of clinical experiments with the lactates of potash and soda, but have not as yet obtained any results of sufficient importance to deserve to be communicated to the public. I nevertheless recommend these salts to the attention of the profession.—*Lancette Français, Dec.* 1834.

13. *Injection of foreign substances into the Arteries distributed to the Brain, in living Animals.* By Professor Mayer, of Bonn.—The fluids chiefly employed were quicksilver and common wax injection.

In the first experiment, the injection of some quicksilver into the carotid artery of a rabbit produced indications of intense suffering. Then came giddiness, rolling of the head, insensibility of the eyes, at first on one side, then on both, *tetanus,* failure of the action of the heart and respiration, and death in twenty-two minutes.

Upon dissection, the temperature in the abdomen being still 104° Fahrenheit, muscular irritation and the action of the heart were no longer cognizable; but the peristaltic motion was active. The pulmonary veins were red; the right *sinus* of the heart contained a moderate quantity of black blood; the left *sinus* some red blood. The lungs were natural; the stomach was full of food; the gall-bladder empty.

The arteries of the eye contained no quicksilver; but a cervical muscle on the right side presented some. This metal was found also in the arteries on the surface of the right and left hemispheres of the brain, and the surface of the *cerebellum.* When the brain was removed, it was observed that the quicksilver was in both carotid at the base of the brain. The arteries of both lateral chambers, and those of the *corpora quadrigemina* were full of it. But in the substance of the brain was none.

In the second experiment, some quicksilver was injected into the left carotid artery of a strong full-grown rabbit. In three minutes the animal became convulsed, and screamed, and the head was thrown backwards; respiration and the action of the heart ceased; the eyes, nose, and ears, were insensible, while the trunk, the hind legs, and the tail, continued still sensible. At the fourth minute, the animal was lifeless.

Upon dissection the basilar and carotid arteries were found full of quicksilver, globules of the metal were seen in the ciliary artery of the right eye, and two globules in the anterior spinal artery of the spinal chord.

The right and left sinuses of the heart were full of dark-red blood. The lungs were natural.

In the third experiment of this kind, quicksilver was injected by a small tube into the left carotid artery of a gray rabbit; while about half an ounce of blood escaped. The consequences were the following: Motion to the right in a circle; failure of the action of the heart, respiration, and the production of animal heat; palsy of the head, and the eyes, and the ears, first on one side, then decussating; *trismus;* indifference to food; inability to swallow, and *ileus;* spasmodic rigidity, and death on the fourth day.

Dissection disclosed the following phenomena. The temperature in the pectoral cavity was 77. Several arterial branches, particularly three or four on the surface of the left hemisphere, and also the ophthalmic artery, were filled with quicksilver. The hemisphere itself presented several chalk-white spots. In the left ventricle, the *corpus striatum* was completely destroyed, and the greater part was absorbed; and in the destroyed mass was observed a vessel filled with quicksilver. The other parts of the brain and the *plexus choroides* were natural.

In the optic nerve, at the entrance of the *retina,* were several quicksilver globules. The cornea was reddish, the aqueous humour turbid, and a delicate albuminous film shut the aperture of the pupil.

The lungs were deep red. The right and left sinus of the heart were filled with dark slightly coagulated blood.

Some alkaline serum, which gave a white colour to blue litmus paper, was found in the abdominal cavity. The liver was brown; the bile deep-coloured; the spleen reddish-brown. The stomach was full of green food; and its villous membrane came away like a white pulp. Beneath this, and in the muscular coat, were innumerable bloody exudations, from the size of a pin-head to that of a lentil, resembling mushrooms. About an ounce of gastric fluid, which reddened litmus paper, was found.

In the fourth experiment, some quicksilver was allowed to run into the left carotid artery of a rabbit, after which the artery was tied. The results were, palsy of the head and eye, loathing of food; *ileus,* with stercoraceous vomiting; ulceration of the *cornea* of the left eye; progressive emaciation to the 18th day, when strength was exhausted; the temperature was very low; the body was rigid; and death ensued.

On dissection, no quicksilver globules were found in the vessels of the brain. In the throat was an abscess. The organs of the chest and belly appeared to be wasted and shrunk. Excepting the ulcer of the *cornea,* the left eye was not morbid.

In the fifth experiment, Professor Mayer injected into the left carotid of a strong ram, by means of a common anatomical syringe, a small quantity of common injection, rendered fluid by means of heat. After one or two minutes, the head and throat were insensible and altogether paralytic. The head fell over on the shoulder, and the eye was insensible and dead. Respiration was immediately at the first suddenly and entirely stopped; but, on the contrary, the heart beat very quickly and strongly about 200 times in the minute. At the third minute, the fore-legs, and, immediately after, the hind-legs, were paralytic; the animal fell on the belly to the ground, unable to support himself; while slight convulsions in the fore-legs and hind-legs, and then in the tail, ensued; and sensibility was extinct in the fore-legs, and lingered still in a slight degree in the hind-legs and tail, but quickly ceased there also. The action of the heart soon became slower and feeble, till at the twelfth minute it stopped entirely, and death was complete.

Dissection showed that the injected mass had filled from the left carotid artery the whole circle of Willis, to the basilar artery. A small portion was found in the descending aorta, probably impelled from the right internal carotid. But there was none in the heart.

In the sixth and last of these experiments, a small quantity of the same injection was impelled into the left carotid artery of a goat, after the right had been secured by ligature to prevent the refluence of the injection. The same phenomena as in the last experiment ensued. A minute after injection, the head was void of sensation and motion; and this insensibility and palsy were at once propagated to the tail. The respiration suddenly stopped and never returned; though at the sixth minute a short gasp took place. At the tenth minute death was complete.

Dissection showed that the injected matter had penetrated from the left carotid artery to the cerebral vessels, as far as the basilar artery, and had thence displaced the blood, without, however, having moved it farther into the ramifications of the circle of Willis. In the external carotid also was found a small portion of injected matter mixed with blood; and in the right carotid also was a small portion. But no trace of it was observed either in the chambers of the heart, or in the arch of the aorta, or in its descending portion.

From the phenomena exhibited by the experiments now detailed, Professor Mayer deduces a series of physiological conclusions regarding the influence of the brain on life and its actions. Though these conclusions are perhaps rendered less palpable by the adoption of the thoughts and phraseology peculiar to the German schools than they might have been, we shall study to exhibit them in as accurate and intelligible a shape as is practicable.

Professor Mayer distinguishes, like most physiologists of the present day, all the phenomena and actions exhibited by animal bodies into two orders;—first, those proper to animals, and second, those common to animals and plants. The former he distinguishes, like all his countrymen, by the denomination of phenomena of the *Animal Vital Sphere;* the latter by that of phenomena of the *Vegetative Vital Sphere;* and the hypothetical or assumed source of all these actions is a principle to which the Teutonic physiologists, from Blumenbach to the present author, have all applied the denomination of Vital Force, (Lebenskraft.)

The first general conclusion which Professor Mayer deduces from his experiments is the following. When the *encephalon,* understanding by this term the brain, *cerebellum* and *medulla oblongata,* has the supply of its conservative principle,—the blood, interrupted or cut off by ligature of its nutrient vessels, or by filling them with a foreign substance, the following phenomena ensue—first, in the sphere of animal life, impaired consciousness, *vertigo,* diminished sensitive energy, indicated in the decussating direction, insensibility, palsy, extinction of irritability, and death;—and, secondly, in the sphere of vegetative, organic or automatic life, failure of the action of the heart and respiration, evident inability to swallow, with inverted peristaltic motion, falling of the animal temperature, spasmodic closure of the mouth, *tetanus*, rigidity, and death.—*Edinburgh Med. and Surg. Jour.*

14. *Carbonate of Iron in difficult Menstruation.*—There are several forms of difficult menstruation, but one, which has not as yet much attracted the notice of writers, is connected with a true neuralgia of the hypogastric plexus. In one case of this kind, where antiphlogistics, opium, and other narcotics, &c. were in vain tried for several months, Dr. Trois succeeded in obtaining a cure by large doses of the carbonate of iron.—*Venetian Journal.—Lancet, March*, 1835.

15. *Physiology of the Schneiderian Membrane.* By B. F. Wing, M.D.—The following experiments, which can be easily repeated by any one disposed to try them, will show that many sensations which are usually referred to the tongue, are in reality perceptions of the pituitary membrane.

Experiment 1.—A student of the profession consented to become a subject for the trial of his taste in discriminating medicinal substances. He was accordingly blindfolded, and his nose closed. In this condition he received a small quantity of tinct. cinchonæ, (its flavour being particularly offensive to him) he immediately declared it to be bitter, and supposed it to be laudanum. His disappointment on being put in the possession of his senses, can easily be conceived.

Exper. 2—The subject of the first experiment was again desirous of exerting his power of discriminating between tastes. After being prepared as above stated, a solution of sugar was used, its sweetness was readily discovered, but in its peculiar flavour he was again disappointed.

Exper. 3.—Was tried upon a person entirely ignorant of its object. Powdered columbo was introduced into the mouth of the individual after he was prepared in the usual manner, its bitterness was perceived. Of its peculiar qualities he was an incompetent judge.

A similar experiment was tried with the tinct. assafœtidæ; a burning sensation was perceived which is common to all spirituous preparations; but its peculiar and strong flavour he could not detect.

Many other experiments were tried without differing in their result.

No one who will take the trouble to repeat experiments upon this subject, will hesitate to refer flavourous sensations to the pituitary membrane, yet he will still claim the possession of a sense of taste, though it is much more limited in its range than has usually been supposed. Thus it is the province of the tongue to perceive bitter and sweet, which are real tastes, while no other organ however sensible to mechanical impressions, can perceive these properties.

Let us examine the relation existing between this and other organs, or the power this organ, when affected, possesses of producing in remote parts, similar sensations and affections, modified according to their organization and function.

The following experiments will show our liability to consider some prominent organs as *primarily* affected, whereas they are only called upon to sympathize in the general affection produced by an impression first made upon some part entirely overlooked.

Exper. 4.—This was tried to ascertain the susceptibility of the individual, (the subject of the experiment,) to the action of tobacco, as it is commonly used in the form of cigars. In thirty minutes after having commenced smoking, slight nausea was felt; in forty, vomiting supervened, and in fifty, the vomiting and other effects usually attendant upon the use of tobacco increased to such a degree, that its use was suspended. It required several hours to restore the experimenter to his usual state.

Exper. 5.—This experiment was tried to ascertain the importance of the schneiderian membrane in producing the effects of tobacco, either of a pleasant or an opposite character. It was tried upon the same individual, after having closed his nose carefully so that no current of air could pass through it. The substance of which the cigars were composed could not be detected by the individual, when thus prepared, without the aid of other senses than that of taste. After smoking one hour, slight burning of the fauces was the only uncommon sensation perceived. At the expiration of an hour and a quarter, very gentle emesis took place, unaccompanied by any nausea or lassitude, removing the burning mentioned above. The experiment was continued one hour and fifty-five minutes without any further effect. On removal of the bandage, the person was immediately made sensible of the substance he had used.

Exper. 6.—A strong decoction of tobacco was kept warm over a dish of ignited charcoal, and an individual inhaled the vapour through his mouth, having previously secured his nose, one hour and thirty minutes without any inconvenience.

The same experiment was tried, differing only by an exposure of this membrane. In twenty minutes nausea was produced, followed soon by vomiting.

Substances applied immediately to the pituitary membrane, sometimes occasion symptoms of grave disease.

A case was related to me by a distinguished physician, where a partial paralysis of the organs of articulation was occasioned by the use of *snuff*. These symptoms excited much anxiety until the real cause of them was discovered. The habit, however, had become so strong that the person prefered an impediment to his speech to a deprivation of his accustomed stimulus. In a second case, the physician was consulted for general tremor and paroxysms of violent palpitations of the heart. After considerable investigation, the cause of these affections was found also to exist in the inordinate use of snuff. Its use was immediately abandoned, and the symptoms very readily subsided.

Ought not this membrane to deserve more consideration as the avenue through which the causes of disease make their attack? Its situation necessarily exposes it, in a peculiar manner, to all causes that are conveyed through the medium of the atmosphere.

In many instances, where the exposure to exciting causes is very brief, and and their effect sudden, is it not more rational to suppose that they affect primarily this nervous membrane, rather than that they are admitted through the skin, where, to say the least, absorption is slow, if the cuticle is perfect, or through the lungs, or stomach.

Dr. Good mentions a case where typhus was communicated by smelling a rose used to decorate the dead.

Persons in apparent health, passing rapidly through diseased districts, have received disease.

Cases have sometimes occurred when patients have even complained of the first effects of disease being manifested in this membrane.

A fisherman, apparently well, on landing from a very healthy voyage, passed with his companions, in the night, a house in which a number of individuals were sick, without his knowledge; he alone perceived an unpleasant odour arising from it, of which he spoke to his companions. He soon complained of nausea and oppression at the stomach. From this time he grew sick, and finally died of the disease existing in the house which he passed.

A person having the superintendance of a dissecting room, in which an attempt was made to preserve a number of bodies for future use, was necessarily occasionally exposed for a few minutes, to the unpleasant odour arising from their partial decomposition. In this individual's constitution there was a predisposition to intermittent. In almost every instance of exposure, however short, a chill and fever would be the consequence, although days would pass, unless thus exposed, without any indication of disease.

If it is established, that deleterious influences upon the economy are produced through the medium of this membrane, it is evident that it will afford an opportunity of applying means for counteracting disease.

In some cases this part remains quite sensible, while others are in a measure torpid.

Sometimes we can apply medicines to this membrane, when all other avenues to the introduction of remedial agents are partially closed.

In syncope it has been an almost universal practice to stimulate the pituitary membrane, and arouse the general system through its agency.

Stimulants, when applied in equal quantities to this part, are much more efficient than when received into the stomach.

In coma the practice has been attended with some success.

I will not attempt to enumerate the cases in which this practice may be beneficial, or the medicine suitable for use. If such practice is found practicable, the good sense of each individual of this society will decide these points.—*Boston Medical Magazine, June*, 1835.

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16. *Sulphate of Alum and Potass in Sore Throat and some other Mucous Inflammations.*—M. Velpeau, of *La Charité,* read before the Royal Academy of Medicine, on the 16th of March last, a paper on this subject. Having been witness of the excellent effects obtained by M. Bretonneau at Tours, in several cases of severe epidemic angina, M. Velpeau was desirous of trying whether the same means might not be successfully applied to the treatment of simple inflammatory affections of the throat. He has experimented with hydrochloric acid, nitrate of silver, and alum, and come to the satisfactory conclusion that not only the malignant forms of angina are arrested by the application of alum, but also those depending on small-pox, scarlatina, &c. and those of a simple inflammatory nature. Twenty-five individuals were submitted to the treatment, and, in all, the inflammation, which was characterized by redness, pain, fever, &c. was arrested at once. When employed in powder, the alum is applied most readily on the index finger of the surgeon. It is necessary that all the affected points of the pharynx should be covered with a layer of the substance; hence, when the inflammation is extensive, the finger must be moved at various returns round the parietes of the back of the mouth. The application is to be repeated, according to circumstances, once, twice, or three times a day. During the interval the patient is to gargle the throat with a solution of two to four scruples of alum to four ounces of honeyed barley-water. The application commonly determines cough, nausea, &c. but these and the disagreeable taste of the alum soon go off; the pain and fever almost universally commence to diminish after the first or second application, so that on the second or third day the patient is in a state of convalescence, the most remarkable effect being the sudden cessation of the fever, and the change in the timbre of the voice. In slight cases of inflammation, gargles with alum are generally sufficient for the cure, but in more severe and violent attacks the powder must be placed in contact with the affected membrane without delay.—*The Lancet, April,* 1835.

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17. *Foreign bodies introduced into the Rectum.*—A very interesting case of this kind has been recently reported by M. Thiandière, the leading particulars of which we shall select.

Isidore Chevais, aged 22, with the object of overcoming an obstinate constipation of the bowels, introduced into his rectum a forked oak stick of the following dimensions: the longer branch was five inches; the other was three inches and a half in length, including the large end by which the two were united. At their point of union, they were separated by the space of an inch, while the greatest distance between them was two inches. The diameter of the branches was four lines; that of the large end which united them half an inch. It was introduced with the large end foremost, and when the shorter prong had entered the rectum, the individual made an effort to scoop out the indurated fæces. His efforts, however, proved unavailing, and he was compelled to desist on account of extreme pain. When he attempted to withdraw the wooden crotchet he found it impossible to succeed, and adopted the singular alternative of forcing the whole of it into the rectum, under the supposition that it would be consumed with the aliments. Tormented by horrible pains of the abdomen, difficulty of voiding urine, and great disturbance of the digestive function; overwhelmed besides with despair, and not daring to apprize his parents of his situation, he lived in constant fear of taking food, betook himself to solitude, and anxiously hoped that the cause of his sufferings would be passed by stool. Finally vanquished by his torments, he determined to seek professional aid. M. Thiandière, on making an examination, readily detected the presence of the foreign body, but it was so high that he could barely touch its lower end with the tip of the index finger. He could neither ascertain its size nor the position it occupied in the intestine. He obtained satisfactory information from the patient relative to the first point, by requiring him to provide a second crotchet of the same kind, and ascertained from him besides, the direction in which it had been introduced. An attempt was first made to extract it by means of forceps passed up through a speculum, but finding that by this means the lower end of the long branch only could be reached, it was determined that it would be useless to attempt to extract it by seizing upon that. He was on the point of abandoning the patient to his fate, when the thought occurred to him to lay aside all instruments, and trust to the hand alone. After washing out the rectum by an enema, the patient was placed with his hands resting on a chair, his breech slightly elevated, and the legs separated. The fingers, previously oiled, were cautiously introduced one by one, until the whole entered the rectum, when passing the index finger forward, and using the long branch of the crotchet as a conductor, he reached its point of union with the shorter one. He then searched for the position of the small branch, and succeeded, with some difficulty, in seizing it with the middle finger, and disengaging it from the fold of the rectum, in which it had become lodged. He finally managed, by passing his finger around the two prongs, to compress them towards each other, so as to include them in his hand, by which the rectum was protected from injury, and in this way succeeded in extracting it entire.

A second enema was thrown up, the ordinary precautions against inflammation enjoined, and the individual regained his health without suffering any other inconvenience than what was a necessary consequence of the preternatural dilatation of the rectum.

A surgeon who had been previously consulted in the case, proposed to divide the branches of the crotchet by means of strong cutting forceps; but M. Thiandière thinks the operation would have been impracticable.

Several cases have been recorded in which foreign bodies of various kinds have been introduced into the rectum, chiefly with the design of overcoming constipation. A monk introduced a bottle containing Hungary water, for this purpose, through the cork of which a small aperture was made, to allow the fluid to flow into the rectum. After using various means to extract it without success, it was finally withdrawn by the small hand of a child. Desault extracted a porcelain jelly cup, which had been introduced about eight days previously. It was of a conical shape, and about three inches in length. It was extracted by breaking it into fragments, and withdrawing the pieces separately. Saucerotte extracted a wooden peg, three inches long and two in diameter, by introducing the finger into the rectum to confine the foreign body, while the point of a sharp corkscrew was inserted into it. Forceps and other means had been before tried without success. Marchetti was called to extract a hog's tail which had been introduced with the large end foremost, the hair having been previously slightly clipped, in order to render them more rigid and irritating. As they resisted all attempts to withdraw it, he provided a canula of the proper dimensions, and after having secured the end of the tail which projected from the anus by means of a strong waxed thread, he passed this through the instrument, and slid the latter upwards into the rectum so as to include the foreign body, which was thus easily extricated. M. Tuffet reports the case of an individual, who introduced a large snuff box of nearly a cylindrical shape, which was extricated with great difficulty. Notwithstanding this, the same person afterwards introduced a wooden goblet, which as it could not be extracted, finally destroyed his life. The same gentleman reports the case of another individual, who introduced a wine glass into the rectum, which became broken and caused profuse hemorrhage; the fragments were extracted by means of forceps. On a subsequent occasion, he inserted a glass bottle, which occasioning great pain, the thought occurred to him to break it into fragments and extract the pieces. To accomplish this, he passed into the rectum the handle of a common fire shovel. Considerable hemorrhage followed; but the fragments were extracted, and no bad consequences ensued. A peasant who was affected with constipation of the bowels, attempted to remedy the evil by introducing a small stick into the rectum. It was carried up by the antiperistaltic motion of the intestine; but again descended, and was extracted by Scarpa, by means of forceps and a catheter containing a leaden stilette. A weaver, who had heard of suppositories for the relief of constipation, introduced his shuttle into the rectum, containing its roll of yarn.—*Bulletin General de Therapeutique, Janvier*, 1835.

18. *Sugar Poisoned with Oxide of Lead.* By C. T. Jackson, M. D.—During the past winter and spring season, a number of persons said to amount to upwards of one hundred in number, in the town of Calais, Maine, have suffered from a disease of the bowels of a violent character, resembling *colica pictonum* of the severest kind. Three of the individuals have died in consequence of this disease, after a protracted and most distressing illness; several others are still in a very critical state, and have suffered more or less from paralysis of the extremities. Through the kindness of one of the sufferers, I have been favoured with the names of forty-eight individuals who are still sick with this disease.

The cause of this distressing malady has been carefully examined into by Dr. S. S. Whipple, of Calais, and through his exertions suspicions were finally fixed upon the sugar which had been used in the families of those who suffered; and it was ascertained that the only article of which they had all partaken, was sugar obtained from one importing house at St. Stephens, N. B. It was furthermore observed, that those persons in the families where the disease prevailed, who did not make use of sugar, escaped altogether, while those who indulged most freely in its use suffered the most severely. Thus the chain of evidence was complete against the sugar, and the disease supposed at first to be an epidemic, is in the end proved to arise from poison. Five or six of those persons who were subject to this colic, set out for Boston for the purpose of obtaining medical advice, one, a young lady by the name of

Darling, died on board the packet, under the most distressing symptoms, attended with paralysis of the limbs. The other passengers are undergoing medical treatment in this city, and still bear the marks of great suffering and extreme emaciation, the countenance in every one whom I have seen, showing that peculiar expression which accompanies disease of the abdominal viscera.

I have minutely examined four of the sufferers, and from them have learned the foregoing particulars. It appears that the sugar was brought from Barbadoes late last autumn, and was sold by an importer at St. Stephens, who supplied the trade at Calais. It was also ascertained that the captain of the ship who brought out this sugar, had a small adventure of the same kind, and that he, and those to whom he sold his sugar, suffered from this disease.

After collecting the above evidence against the suspected sugar, it was thought advisable to make a chemical analysis of it. Four parcels, consisting of about a pound each, were put in my hands by Mr. Lee and captain Rodgers, with a request that I should make an analysis of each of them, and ascertain positively whether they contained poison or not.

The parcels were marked Nos. 1, 2, 3, and 4, and were subjected to analysis in the order of their numbers.

My suspicions and those of Dr. Whipple were fixed on oxide of lead as the poisonous ingredient, and the results of the analysis prove that this opinion was well founded.

They also prove, that a small quantity of this poison, when taken daily, although no immediate disturbance is felt, produces great derangement of the system, and induces a most dangerous and painful disease, which lingers long in the constitution after the use of the deleterious article has been suspended. How often do people exclaim that certain articles are not poisonous, because they have sometimes partaken of them with impunity, when we know that if persevered in, disease and death must be the consequence of their temerity.

I annex the subjoined extract from my laboratory notes.

June 7th, 1835. Four parcels of brown sugar were handed to me by captain Rodgers and Mr. Thomas Lee for chemical analysis. They are marked Nos. 1, 2, 3, and 4, and weigh about a pound each. No. 1 is evidently from a different lot from the other samples. It is of a lighter yellow colour, and coarse grained; while the others are much darker and smaller grained, and in lumps of a still deeper colour. There is nothing peculiar in the taste or appearance of any of the samples, that would cause any suspicion to be raised against the quality of the sugar.

Analysis —The object of the analysis is to determine if the sugar contains any oxide of lead or copper.

Five hundred grains of the sugar No. 1, burned to cinders in a platina capsule, the cinders crushed to powder in a wedge-wood mortar, and then burned to ashes in the capsule. The ashes was placed in a green glass flask, and digested with nitric acid, and evaporated to dryness; then treated with water and filtered. The filtered solution was placed in a flask, and a current of sulphuretted hydrogen gas passed though it until the liquor was saturated. No precipitate took place, from which it will appear that this sample does *not* contain any lead or copper.

I have since learned that this sugar was sent for the purpose of ascertaining if it was free from poison, and was not of the kind used by the family at the time they suffered from the disease.

Five hundred grains of No. 2, which came from the house of Mr. Lee, was treated exactly as No. 1; and when the sulphuretted hydrogen gas was passed through it, a copious precipitate of sulphuret of lead took place, which being collected on a filter, washed, dried and weighed, amounted to 1.6 grains; equal to 1.38 grains metallic lead, equal to 2.337 grains oxide of lead. This will give nearly 38 grains of oxide of lead to the pound of sugar.

Five hundred grains of No. 3, treated in like manner, gave a precipitate of sulphuret of lead, the weight of which is precisely the same as that obtained from No. 2.

No. 4, sugar from Mr. Darling's family. Five hundred grains treated like No. 1, gave, when sulphuretted hydrogen gas was passed through it, sulphuret of lead in weight equal to that from No. 2. The sulphuret of lead obtained from Nos. 2 and 4 was reduced before the blowpipe to metallic lead. A portion of each of the precipitates was examined by tests for copper, and none discovered.

The lead in this sugar may be either in the state of acetate, malate, or saccharate of the oxide of lead, the sugar combining with it so as to form a chemical combination. How this sugar became contaminated with lead I am unable to say. There is no suspicion of criminal design attached to any one, and it is probable that leaden reservoirs were used for the syrup, on account of the comparative cheapness of the metal, and that the free acids in the juice of the cane corroded the lead, and thus produced the poison; which crystallized in combination with the sugar. The dreadful effects of this poison should by all means reach the sugar planters, who distribute so noxious an article to the people of many countries, and must produce consequences at which humanity shudders. If the planters continue to manufacture this poisonous compound, and send it abroad regardless of the consequences, after they learn how much suffering it has caused, (which I am not willing to suppose they will do,) they will become criminal in the eye of British law, and liable to the severest penalties.

Indeed, we may feel assured, that as soon as they know the effects of their sugar, they will immediately examine into the source from whence the poison was derived, and prevent a continuance of the evil. Their *own interest* would cause this to be done, even if they were not impelled by higher motives, for their sugar would soon have a bad reputation, which would destroy its sale in the market. The researches into the cause of this disease, eminently show the advantage of rational medicine over empiricism, for the empiric would never have traced the disease to its remote cause by a connected mode of research, and consequently would have been unable to learn the cause of the malady and its method of cure. The symptoms in the cases all pointed to lead as their cause, and chemical analysis has confirmed the truth of this opinion. The cause is thus found out and removed; and rational medical treatment will soon restore the surviving sufferers to health.

[*Boston Medical Magazine*, *June*, 1835.

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19. ***Recovery from Poisoning with two drachms of Arsenic.*** By John Greening.—January 27, 1833. About seven o'clock this evening I was requested to visit Mrs. T——, residing at Angel-row in this city, a widow,

38 years of age, of sanguine melancholic temperament, who had taken, in toast and water, a quantity of arsenic. I found her in bed, her head supported, and the saliva flowing copiously from her mouth. She had also vomited nearly a chamber-pot full of fluid. The face was swollen, flushed, and covered with cold sweat; pulse 120, feeble and irregular; and the breathing was very difficult. In consequence of a quarrel with her daughter she had gone to a chemist's, and purchased, as the shopman says, two drachms of arsenic, and drunk it in fluid, no other person being in the house at the time.

I immediately administered large quantities of soap and water, and after obtaining a stomach-pump from the Infirmary, I washed the stomach well out with the same mixture, which was put by for future inspection. There was evidently a spasmodic contraction of the œsophagus; the retching and vomiting had nearly approached to convulsions. Upon asking her several times if she had taken all that was bought, she said "yes."

At nine o'clock she was more sensible, and complained of excruciating pains and burning sensation in the throat and stomach. The soap and water was persisted with.—Ten o'clock; still severe pain over the abdomen, which is much swollen; the vomiting continues. She was left for the night under the care of a proper person. Magnesia in milk for her drink.

Monday, seven A.M. More composed, but says she shall die. Vomiting throughout the night; pulse 95, small; great thirst; bowels have been moved four times, with excruciating pain and tenderness in the epigastric region. Mitt. sang. ad ℥ x. Sumat Opii gr. ij tertia quaq. hora. Emp. lyttæ ampl. scrob. cordis, and to continue the magnesia and milk.

One o'clock. She feels somewhat easier. Mitt. sang. ad ℥ viij. Injice illico per anum clysma purgans.

Ten o'clock P.M. Bowels open; less pain; animal spirits much depressed; vomiting continues; pulse 98; blood buffed; thirst. Take two drachms of *Carbon. of Magnesia in Decoct. Hordei* 4ta quaque hora.

29. Tuesday, nine o'clock. Some sleep; burning pain of the throat and stomach still continues; still vomiting; the two first doses of medicine remained in the stomach for half an hour; the blister rose well. Rep. clysma. V. sectio ad ℥ x, et pilul. Opii.

Feb. 1. Up to this time she had gone on well; has not vomited since four o'clock yesterday afternoon; complains of great pain in the bowels and great thirst. Rep. Emp. Lyttæ, et mistura.

2. Vomiting has ceased; bowels open; a large quantity of mucus was mixed with the feces; pulse 108, soft and quick. From this time up to 20th nothing particular occurred; and on the 23rd she was perfectly recovered.—*Lancet, March*, 1835.

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20. *New Remedy against Cancer.*—The *Hippomanes Mancinella*, of the family of the Euphorbiacæ, has been known since the conquest of America by its poisonous effects. It is the juice of this tree which the Indians employ to envenom their arrows; and it is also extensively employed by the hordes which inhabit the banks of the Oronoko, as an anticarcinomatous remedy. Numerous experiments have proved that arsenic is neutralized by the secretion of a cancerous ulcer, while it preserves its poisonous properties when placed in contact with any other sore. The same phenomenon is observed with respect to the mancinella: its poisonous effects are in like manner neutralized by the

secretion of cancerous ulcers. The Indians who employ this substance in the treatment of cancer, surround the wound with a pasty material, and then apply to the centre of the sore a few drops of the juice of the mancinella; an eschar soon forms, and coming away in about forty-eight hours, leaves a clean wound, which rapidly heals.

M. Germon, of Marseilles, has witnessed a great number of cures effected by the application of this remedy, which he recommends to the attention of physicians.—*Jour. des Con. Med. Chir.—Lancet, April,* 1835.

21. *Obliteration of the Ventral Aorta.*—At the last meeting of the *Society of Medical Observation,* Paris, M. Louis presented a case of complete obliteration of the ventral aorta. The patient died at the *Hopital de la Pitié*, of pulmonary disease; and no great change could be observed in the temperature or external appearance of the lower extremities, although minute examination did not show any collateral branches of note by which the circulation could have been continued to the popliteal arteries. The femoral was obliterated during the greater part of its course.—*Lancet, April,* 1835.

22. *Anomalous Articulation.*—M. Andral presented the coxo-femoral articulation of a subject of whose previous history he was unable to obtain any account. The articulation exhibited the following anomalies. The head of the femur was nearly double its natural size; it preserved its perfectly round form, and was completely contained in the cotyloid cavity, which presented an excess of development exactly proportional. The head of the bone was, as it were, incarcerated in the cavity by ossification, with hypertrophy of the cartilaginous rim. The osseous matter deposited on the head of the femur extended all round beyond the disc of the head, so as to leave a deep circular furrow between it and the neck. M. Cruveilhier noticed that this prominence of osseous matter round the neck should be distinguished from a layer that would have enclosed the head and neck of the bone together. There was no trace of ligamentum teres. The cartilages of the incrustation were unequally laid down, and in some places supplied by a layer of ivory material.

Anomaly of the Kidney.—M. Boiret presented the following curious anomaly of the kidney: The right kidney, very small, was placed in the cavity of the pelvis, transversely across the median line, in the place usually occupied by the uterus between the bladder and rectum. There was no supra-renal capsule, and it received its artery from the bifurcation of the aorta, so that the sacra media in fact became the renal artery: the real sacra media was very small and long, in consequence of the aorta dividing at the level of the second lumbar vertebra. The uterus, of a long, cylindrical shape, was situate altogether to the left side, behind the ligament of Fallopius. The ovary and its ligament of the right side had escaped through the inguinal canal, and formed a hernia, externally, of so peculiar a shape, &c. that it was very difficult to say whether it was femoral or inguinal.—*Archives Generales, February,* 1835.—*Lancet, April,* 1835.

Editorial Notices and Acknowledgments.

We return thanks to Drs. Chatard and Baron for their communications. They are on file for our next number.

Were it not that we have become convinced by past experience, that any effort to incite the members of the profession generally, to communicate the fruits of their observations, would be a mere idle waste of words, we would reiterate our appeal to them, to aid us in our well meant endeavours to improve the science of medicine, and circulate its important truths throughout our widely extended country. The majority of them, unfortunately, seem to be deaf to all such requisitions upon their time, and manifest a disposition to plod on, from day to day, in a perpetual routine, utterly unmindful of any other duty than the application of remedies, and with no higher ambition than the transmutation of them into dollars and cents.

The following publications have been received within the last month:

Transactions of the Medical Society of the State of New York, vol. ii. part ii. Albany, 1835. E. W. & C. Skinner. (*From the publishers.*) This half volume of the society's transactions contains several very good papers. Amongst them we find some that have been previously published. We have already commended the course pursued by the society in publishing its memoirs, and we hope that it will continue to enrich the science, by the valuable contributions of its members.

Copland's Dictionary of Practical Medicine, comprising general pathology, the nature and treatment of diseases, morbid structures, and the disorders especially incidental to climates, to the sex, and to the different epochs of life, &c. Part iii. London, 1835. Longman, Rees, Orme, Brown, Green and Longman.

Magazin der Auslandischen Literatur der gesammten Heilkunde, und Arbeiten des Aerztlichen vereins zu Hamburg. Herausgegeben von Dr. G. H. Gerson und Dr. Nikol. Heinr. Julius. for January and February, 1835. (*In exchange.*)

Journal des Connaissances Medico-Chirurgicales, for April and May, 1835. (*In exchange.*)

The Edinburgh Medical and Surgical Journal, for April, 1835.

The London Medical and Surgical Journal, (Dr. Ryan's,) Part 38, for April, 1835.

The Dublin Journal of Medical and Chemical Science, No. 19, for March, 1835.

The London Medical Gazette, for March, 1835.

The Lancet, Nos. 24—27, for March, 1835.

Encyclographie des Sciences Medicales, vol. 30, for February, 1835.

Boston Medical Magazine, Nos. 21 & 22, for June, 1835. (*In exchange.*)

The United States Medical and Surgical Journal, No. 10, for May, 1835. (*In exchange.*)

The Boston Medical and Surgical Journal, Nos. 16 to 19, for June, 1835. (*In exchange.*)

NORTH AMERICAN ARCHIVES

OF

MEDICAL AND SURGICAL

SCIENCE.

VOL. II.] AUGUST, 1835. [NO. 5.

ARTICLE I.

Abnormal Elongation of the Tibia, consequent on extensive Ulceration of the Leg. By ALEXANDER BARON, M.D. of Charleston, South Carolina.

ON the 20th of May last, a patient was sent to me from a neighbouring plantation, with an ulceration of the leg which had existed for very nearly five years; during which time it had been under surgical treatment, without any benefit. The individual was a negro boy, about nineteen years of age, and had, previously to the receipt of the injury, (a simple laceration of the integuments,) which caused the ulceration, enjoyed comparatively sound health, although scrofulously disposed; but at this time presented an emaciated appearance, was excessively irritable, laboured under occasional fever of hectic character, with loss of appetite, great prostration, and upon the slightest change of weather, suffered more or less from rheumatic pains. The ulceration occupied nearly two-thirds of the leg, and almost encircled it,—was indolent, irritable, and exhibited a great tendency to slough. On the anterior face of the tibia, existed an exostosis, occupying fully the middle third: it was firm, hard and very little sensible on pressure. The disease, although of a serious character, was by no means uncommon. A peculiarity in the case, however, was remarkable, as well for its singularity, as for its novelty; it consisted in an unnatural elongation of the tibia, which, upon measurement, was found to be two and a half inches longer than the corresponding bone of the other limb.

The unsound bone was much curved outwardly from accidental position; and if it had been perfectly straight, would have made the difference between it and its fellow, fully, if not more than, three inches. Upon consulting several medical gentlemen in the city, it was deemed absolutely necessary that amputation should be performed, as the only resource left which afforded any chance for the preservation of life. A question arose as to the possibility of performing the same below the knee. From the length of time that the disease had existed, however, its extent, the general loss of health, and the patient's thin, weak and debilitated condition; together with the supposed great thickening of the periosteum, and the belief (afterwards confirmed by examination) that the entire bone was diseased; it was decided that it should take place above the knee. This was accordingly performed on the fourth of June subsequent, by means of the circular operation, having previously restored him to comparative general health. The same objections of course held, as to any operation for exostosis on the bone itself.

It is one object in this paper to endeavour to point out some of the causes which in all probability operated in producing this abnormal elongation; a similar instance of which, we believe, is not, that we are aware of, recorded in any surgical work to which we have had access. We have conversed with several individuals of the profession, and no one, so far, has been enabled to recall a corresponding instance. We have known elongation of the whole limb to have occurred, as a sequence of extensive ulceration at the hip joint; but have never met with a parallel change in an isolated bone. Meckel speaks of extension of the bone, but affirms that it can only be the result of mechanical force applied at either end; and he then further affirms, that the body of the bone must become, throughout its entire extent, swollen or enlarged, in consequence of the separation of its constituent molecules, which was not the case in this instance, the enlargement being only partial, and confined to a limited portion only of the bone, as well as being wholly independent of all mechanical influence. The case we consider anomalous, and we would be glad that any of our professional brethren who may have met a similar instance, should give publicity to the same. At first sight, it was apprehended that the sound bone had been fractured—that shortening had taken place, and that the difference in length between it and the then unsound limb, might have been accounted for. Upon inquiry, however, it was found that no fracture had ever occurred. We also ascertained that no inequality in length had ever existed congenitally. The following remarks, therefore, which the case has suggested, are now thrown together with the hope, that they may be serviceable to the profession.

An invariable characteristic of all functional performance is, that in a state of health, the play of all the functions is remarkable for comparatively regular and undeviating action; while it is no less established, that all deviations from this standard, all aberrations of function, whether of increase or decrease, are dependant on some change, or influenced by accidental causes, either in the kind or degree of action occurring in organs themselves. The rule is applicable to every functional action which takes place in the economy. In the normal state, neither more nor less than a certain standard result follows functional exercise. This, however, may not constantly be the case. Accidental circumstances, of various character, may and do frequently arise, under which departures from this standard may as variously be exhibited; and in the majority of such departures, excitation or enhancement of functional exercise exists, rather than diminution or depression of the same. This is evident, inasmuch as it will not be denied, that a certain degree of vitality must be present in every organ and structure, as an indispensable first cause of functional exercise; and whatever may be the degree of that vitality, or whatever its integrity, it is in all cases liable to impressions, in proportion to the character and energy of which will be the effect produced upon that vitality. Now whether it be invariable that all impressions, from whatever source, are primarily stimulant, or not, which many contend for, and which we believe; still, the immediate result of such impressions must, in the majority of instances, be decidedly excitative to a certain extent, since but comparatively few cases occur, and we think it highly doubtful that they ever do occur, of immediate and absolute depression or debilitation of vitality, and then only when the impression is made suddenly and in extravagant violence. Independently of this also, the occurrence of such positive sedation may fairly enough be denied, inasmuch as it takes place under extraordinary and unusual circumstances, and cannot of necessity be certainly recognizable by the most accurate and acute observation.

Again, it may be safely argued, that the immediate effect is that of stimulation, from the fact, that all the operations which take place in, and all the functions of the economy, are dependant on some one kind of appropriate stimulus. Thus the heart ceases action, or imperfectly performs its office, upon the withdrawal or deterioration of its peculiar circulatory fluid—the lacteals and absorbents generally are indebted for the perfect performance of their actions, to the presence of chyle and other respective stimuli—the evacuation of the large intestines to the existence of fæces within their cavity,—and the due exercise of the functions of the liver to the presence or absence of bile, &c. Now it must be granted, that in any of these instances, a stimulant operation must be wrought—else why should we have cessation of action on the abstraction of these appropriate stimuli, which we know does take place. In no one instance, nor in any, do we find a natural and primary sedation effected. It is fair to infer, therefore, that the action of any extraneous, or unnatural agent, on any of the organs, is more or less immediately stimulant, and the consequence of such action must be a greater or less enhancement of functional performance.

We are disposed then to regard, in the present case, an excessive play of the functions of *nutrition* and *absorption* proper, as the prominent cause, by the instrumentality of which the elongation alluded to was produced. That the energy and activity of these two had been enhanced by the stimulant operation of disease, through the intervention of the vitality of the bone, taking into consideration also the age of the individual.

In the first place then, what was the condition of the bone at the period of the receipt of the injury? It was perfectly sound, making allowances for the scrofulous disposition of his constitution—the boy's general health was not materially impaired, and all his functions, it is fair to presume, were in a normal condition. But at this time, his age was fourteen, and all his functions were in fuller play than they would have been at any subsequent period of his life, and this more particularly as regarded nutrition and absorption. The bone, therefore, had not attained its ultimate or maximum growth, and these functions were in active exercise, uncontrolled by any diseased action. Had no injury occurred to mar this equalized condition, no elongation could ever have arisen, as the corresponding limb evinced; which had not at the age of nineteen, when he came under our charge, perhaps, fully reached its final growth and size, and yet, was then, as we have stated, by measurement, two and a half inches shorter than the other. What now was the state of the bone at this latter period, up to which the influence of disease had been steadily progressing? Perhaps for a few months succeeding the receipt of the injury, no inconvenience had been felt, and the use of the limb had not been interrupted. Pressure on the head of the bone had still continued, and the bone may have been unaffected. As soon, however, as it became the seat of disease, of consequent increased functional exercise, and its use impossible, all pressure was removed. Full play was given to its growth—its nutrition and absorption, unrestrained before, were now rather enhanced in activity by the excitement of disease, while not only were those so enhanced, but an irregular and misapplied exercise of their powers also existed. This was evident from examination of the bone after amputation. As regards nutrition, such had been its activity, that unnatural depositions of bony matter exhibited themselves, as the exostosis proved; and absorption also had been abnormally and irregularly active, from the nearly entire removal of the cancellated structure. It is plain, therefore, that there must have been excess of functional energy, as well as irregular exercise of the same.

We regard, however, the age of the individual as influencing the greater or less consolidation of the bone, as a material cause of the elongation. It will be remembered, that this was between the ages of fourteen and nineteen,—that at that time the bone was by no means completely ossified—that the long bones are the last to be so, and that they attain their growth by successive depositions of bony matter, or matter convertible into bone, as well at the centre as at either end of the same. Their growth is conducted also, in opposite directions, from the centre of the shaft towards each extremity, and from the centre of each extremity towards the centre of the shaft—that at this age the intermediate spaces between these respective centres were comparatively cartilaginous, and that the extremities are those which are the last to be consolidated, as the experiments of Duhamel, and the authority of Meckel prove. In this state of incomplete ossification, any force exerted upon the bone must have caused more or less shortening or curvature, provided that force had been unnatural. The reverse, then, or elongation, may have occurred, since all force was removed, even that of pressure from use. The fullest opportunity was afforded for preternatural growth, aided and assisted as the functions of nutrition and absorption were, by the stimulus of disease and unnatural excitement. We know, moreover, that even at the age of twenty; maceration detaches the epiphysis from the bodies of the long bones. It is then from birth, up to, or beyond this period, that the majority, if not all, of the alterations in form are liable to occur. Hence we infer that the age of the individual materially contributed to the elongation of the bone.

The stimulant impression then of disease as exerted upon the natural vitality of the bone, may be regarded as the first change which occurred. It was necessarily enhanced, and the functions as necessarily derived from this an increased energy and activity. But this energy remained uncontrolled, at the very period during which it was, even in the normal condition, highly active. The necessary pressure, by means of the opposing bones at each extremity, was removed, and the functions then being wholly unrestrained, and the condition of the bone being, at that age, that of incomplete ossification; we have reason to infer that excessive play of function was decidedly instrumental. It is worthy of remark here, that the fibula attached to the unsound bone remained unincreased in length, and was of the same size with its fellow of the opposite leg; which may be accounted for from the fact that it was not the seat of disease, and should be regarded as an evidence of the correctness of our remarks. Another circumstance which materially contributed to the elongation of the limb, was the extensive destruction of the soft parts themselves. We have said that the ulceration occupied nearly two-thirds of the leg, and almost encircled it. It was also very deep, insomuch that entire inability existed of moving the toes, from the injury of muscular structure; and what little did remain of this, had less power and tone from the long period of total inaction to which it had been subjected. How then did this loss of soft parts assist in producing the change in the bone? We have shewn how effective the pressure on the extremities of the bone was. The same opposition must have been made by the muscles of the leg, with this difference, that in place of direct pressure, the natural contractility exercised a degree of traction on the same ends of the bone, productive necessarily of a similar effect with that wrought by the actual pressure. As soon, however, as this counteracting force was removed, which of course was gradual, by the ulcerative process, still fuller play was afforded to the then rapidly growing bone, which in combination with the absence of pressure and enhanced functional performance, promoted, or rather permitted, extension beyond the natural limit.

Again, a greater or less preternatural alteration of the bony structure must have existed at some one period during the five years, which would also have assisted in bringing about extension of the bone. We have Meckel's authority for affirming that where the vitality of the bone has been exalted by disease, a change takes place in the compact substance of the same, it becomes converted into a spongy substance, and that all differences, even between the compact and spungy cellular portion, or diploë, are effaced. That such a change did take place in a portion, if not throughout the whole bone, was evident from the examination of the same after amputation. In sawing through the bone longitudinally, it was found that the cancellated structure was nearly all removed, and that immediately under the base of the exostosis, the cavity was twice as capacious as at any other part. Now that compact portion of the shaft, at this point, must have been first softened and then removed, and this change could not have been exclusively confined to the base alone of the tumour, but must have extended more or less along the remainder of the bone. It is immaterial, however, that this last should have been the case. The change into spongy substance in the circumscribed portion was amply sufficient. The texture of the bone then, in place of being compact and firm, had become soft and pliant, and of necessity offered less resistance to the growth and elongation. Full scope was given to the action of the formative powers, and this again, in connection with the agencies spoken of above, must have certainly contributed in no small or trifling degree.

Moreover, such a change must have occurred, from the fact that the bone presented, as has been stated, a considerable curvature outwardly. This, we would remark, was unnatural, since the corresponding tibia was perfectly straight, and no previous accident had ever given place to the same in the unsound limb. The individual, when sitting, or lying down, had contracted a habit of resting the diseased member on the opposite knee, having thus no support for the body of the bone itself, the foot only being sustained. Had there been, therefore, no softening or alteration of the bone, no curvature could have arisen. It would have remained, in spite of position, perfectly or nearly very straight. This was not the case, however, and we can only account for the curvature, by allowing the existence of this organic change, and the influence of the peculiar position. But independently of this, a soft condition of the bone, at that age, must, physiologically speaking, have existed, whether or not an abnormal change of structure had arisen, from the impression of disease, which of itself was amply sufficient for all purposes.

We have, therefore, four agencies, which, it is fair to presume, were instrumental in the production of this novel and interesting change in an isolated bone. 1st. The increased energy of functional action, as dependant on enhanced vitality. 2d. The absence of all opposing and counteracting force, as exerted by direct pressure on the extremities of the bone. 3d. The extensive destruction of the soft parts, and the loss of tone and contractility in so much of the muscles as remained uninjured, by which all, or nearly all opposition to growth or extension was removed. And—4th. The material organic change of structure, from compact solid to soft or spongy condition of the bone.

As an evidence of the correctness of this explanation, as regards the first and last agency, we may take into consideration the scrofulous disposition of the patient. It is universally remarked in individuals possessed of this habit, that every tissue of the body, but more particularly the white or lymphatic tissues, is liable to assume, when subjected to irritating causes, a degree of subinflammation. When, however, the diathesis is more strongly marked, even the more dense and less vital, may be affected with such inflammation. Thus the periosteum, ligaments, cartilages, and even the bones, may, under this influence, *lose their density and insensibility.* Such was the case in the present instance. The individual, up to the period of the receipt of the injury, had at various times suffered from enlargement generally of the glandular system, and even when under our care, had a considerable enlargement of the inguinal glands of the diseased limb. And here we must not omit recording the very prompt disappearance of this hypertrophied gland, subsequently to the performance of the operation. Its size was fully that of a pigeon's egg. Two days had scarcely elapsed after the amputation, however, and it had resumed its natural size. The lymphatic, then, had at first been evidently diseased and sub-inflamed. As soon as the ulceration progressed, the bone, from its vicinity, became affected—its natural insensibility became less and less distinct—a degree of sensibility was substituted—irritation was established, and soon a state of sub-inflammation predominated; the effect of which was an unusual accumulation of nutritive fluid, and of course an exaltation of nutrition, or hypernutrition, succeeded. We know that in early life, and in a scrofulous habit, a plethora of the lymphatic tissue singularly favours the occurrence of sub-inflammations, which are always ready to take up their position in such parts as are labouring under the influence of irritating causes, which was the case with the bone here. Now, it is not to be denied, that inflammation always begins by increasing the vitality and volume of the tissues affected by it, and we cannot account for this increase of volume otherwise than by presupposing an enhancement of nutrition. Increased energy of functional action then, must have occurred, although its progress was slow.

Again, as regards the change of structure spoken of,—not only may the bone, in such a habit of body, have lost its density, and become softened; but a striking analogy likewise exists between this case and that of rachitis. The last disease is one to which scrofulous patients are most exposed. This affection consists in an unequal combination of the phosphate of lime and the gelatine of the bones. Hence, from this disproportion, distortion and curvatures occur, the bone not being sufficiently firm to sustain the pressure of the trunk and the contraction of the muscles. The scrofulous habit of our patient rendered it probable that such a disproportion, perhaps in a trifling degree, even then existed, and if not, that a liability or tendency at least, to the exhibition of the same, remained, upon the subjection of the bone to the excitement of disease. Now, we have already said, that the periosteum in this case was considerably thickened, that a degree of irritation, amounting to sub-inflammation, in it, and in the bone itself, also existed; and we have no doubt that the same was present in the medullary tissues besides. It is plain, we think, therefore, that this exalted irritability must have caused a resorption of the earthy portion, assisted by the tendency incident to the habit of the patient; in confirmation of which we would remark, that in cases of fracture, in a sound habit of body even, we find that the extremities of the fractured bones become soft during the excess of inflammation, and upon the subsidence of inflammation resume their hardness and solidity.

In rachitis, the curvature is the result of pressure and muscular contraction. In this case, however, these, as we have stated, were entirely removed, and thus we are enabled to see in what manner the second and third agencies alluded to, operated in producing the elongation of the limb, in this unique and highly interesting case.

ARTICLE II.

Extirpation of Tumours from the Jaws. By Wm. L. Horton, M.D. of Abingdon, Md.

Case I. Mrs. Hampton, aged 36, applied to me in 1812, to obtain relief from a tumour situated on the anterior part of the upper jaw. It was about the size of a pigeon's egg, projecting quite beyond the lips. On examination it was found to be hard and firmly attached. Removal by the knife was recommended, to which the patient readily assented. The operation was performed in a few minutes; but the hemorrhage was profuse and somewhat troublesome. This was restrained by the actual cautery. The tumour was a real scirrhus, and originated from a decayed tooth, which was also removed. The patient got well in a short time.

Case II. A negro woman, belonging to Mrs. Michael, had a tumour on the lower jaw, about the size of the foregoing, which was removed by the knife, in 1830. Recourse was again had to the actual cautery to stop the hemorrhage. The tumour occupied the place from which two decayed teeth had been removed. In a few months it returned, and attained nearly its original size, and was again removed. It was then discovered that the root of a tooth had remained in the jaw, and this was also removed. The disease returned no more, and the patient got well in a short time.

This tumour was also of a hard scirrhus structure.

Case III. Miss Margaret Cronine, aged 18, had a tumour on the left side of the lower jaw, nearly the size of a hen's egg. It had made its appearance about six months before. This was removed by the knife on the 6th August, 1834, and two decayed teeth, from which it proceeded, at the same time. On the 2d of September it was found to have grown to half its original size, and was again removed. On the 7th of September a similar tumour was observed to be progressing on the opposite side of the jaw. Two carious teeth being removed arrested its progress. On the 7th of October, the first tumour was found to be rapidly growing, and was, for the third time, removed. On the 27th November, the tumour had attained nearly its original size, and the operator despairing of making a cure, advised the patient to go to Baltimore for surgical advice. This she sternly refused to do, but insisted on my operating *once* more. Miss C. had lost a brother with a similar disease, under treatment *from home*, and said, "if she must die, she would die *at home*."

She was admonished that although the tumour could be again removed, as it frequently had been, yet in all probability it would again return. The operator being discouraged, was really anxious to get her off his hands. Still she persisted. Determined on my part to make thorough work in this last effort, I cut to the bone, and with a hot iron seared into the sockets of the teeth. I then applied nitric acid freely, confining it to the part with wax. The wound was ordered to be dressed two or three times a day with lint dipped in nitric acid, and wax to be applied over the dressing. In three weeks the wound healed sound, and now (June 25th, 1835) there is no appearance of a return of the disease. On the contrary Miss C. has recovered her personal beauty and former cheerfulness.

The above cases, which are extracted from my memorandum book, may serve to admonish us of the propriety of removing decayed teeth promptly. That tumours originating from this cause are generally of a scirrhus character, and would terminate in cancer. The last case may serve as a lesson to young practitioners, whose motto should be *Nil desperandum.*

ARTICLE III.

Observations on preternatural enlargement of the Uterus, ending in permanent induration, with a case. By PETER CHATARD, M. D. of Baltimore.

DESTINED by nature to perform an important function, during one half of the female's life, and forming at the same time a focus of irritability and sensibility, the uterus is subject not only to many diseases common to it and other organs, but also to others peculiar to itself; such as vicious menstruation, affections of the ovaria, and the morbid alteration now under consideration, which, according to the proper signification of the word hypertrophy, I would call morbid hypertrophy, to distinguish it from the extraordinary increase of nutrition, which perhaps, although in itself a morbid state, nevertheless permits the organ to perform a healthy function, as it is not unfrequently observed in other organs, such as the heart, the liver, the pancreas, the kidneys, and even the locomotive muscles, in which we find that their constituent fibres are similar and healthy, though in an uncommon state of growth; whereas in the kind of hypertrophy here mentioned, these constituent parts are quite dissimilar, and do not resemble the primitive ones. To explain the modus agendi of nature in these cases, is not in my power: the occult laws of nature are not to be explained by man. But certain it is, that it is not uncommon to see women, after having suffered more or less in the region of the uterus for a year or two, restored to a certain degree of quietude, with no other inconvenience than a large abdomen, caused by an indolent and hard ball which they properly refer to the womb.

I have seen many such cases in the course of forty years practice, although I have have had but one single opportunity of *post mortem* examination, which will be given in the sequel.

These women, in order to alleviate their sufferings, and if possible to remove the cause of it, apply to physicians, who, after having gone through the common course of treatment, are at last obliged to give up the case to nature. This truth is illustrated by the cases of three individuals, now living in our city, in the enjoyment of tolerable health, after having laid aside all sorts of medicines for upwards of fifteen years. One of them has the abdomen immensely large, and very hard to the touch; but she is free from pains, and has no discharge whatever from the vagina.

I am not ignorant that at its origin, the disease is of a difficult diagnosis; because it may be rendered obscure, to a certain degree, by pregnancy, suppression of the menses, tympanitis, dropsy, hydatids, congestion, &c. But with a little habit, prudence and time, it may be distinguished with considerable accuracy.

In the incipient state, women complain of uneasiness and pain in the region of the uterus; the menses are irregular and sometimes suppressed; they, however, may continue to exist for several years: the abdomen becomes larger, and hard in some parts; the general health is considerably impaired, and things go on increasing for a couple of years, till a perfect induration takes place, when the uneasiness and painful sensations cease, and the general health is in some measure restored.

These symptoms, nevertheless, do not uniformly occur in every case, and being common in other diseases of the uterus, it is sometimes difficult to discriminate between them. The post mortem appearances in the following case of morbid hypertrophy of the entire uterus, offers some resemblance, as regards the constituent parts of the diseased structure, with what is very often found in the morbid alteration of the ovaria alone.

During my residence in Wilmington, Delaware, I met with a mulatto woman, already advanced in years, remarkable for the size of her abdomen, and her manner of walking. Being acquainted with her mistress, I desired to know the particulars of the case, and the woman herself obligingly told me that she had already been for thirty-two years in the state I then saw her, enjoying, nevertheless, good health in other respects, but always walking with difficulty, and sometimes falling, from an inability to maintain a proper equilibrium. She gave me the following history of her case.

"When twenty-two years of age," said she, "my menses were suppressed by a cold river bath, which I took when I had them on. Medical aid was procured, and the periodical flux was partially, but never perfectly restored. Three months after, having spent an entire night at a ball room, where I heated myself very much, I returned home sick, complaining of painful sensations in the abdomen, and thought I felt a ball in the left part of the lower pelvis. A surgeon, after having used a variety of means, without success, bled me in the foot, with no other effect than to transfer the ball suddenly, from the left side to the right, where it has remained ever since. Continuing to grow worse, my master, being alarmed, sent for several eminent physicians, who were unable to relieve my sufferings, and even to bring back the menses. From that time, I was obliged to remain in bed for a whole year, lying on my back, and suffering constantly, both in the uterus and abdomen. It was during this space of time that I swelled as you now see me, and my size has continued, without the least increase or decrease, so far as I have been able to discover." She assured me, besides, that she never had a child; and added, "I have been sick but four times during the entire period that has elapsed since my recovery, after the year of suffering that confined me to my bed." This woman died shortly after, of a strangulated hernia, and I was permitted to open her body in presence of four physicians, several pupils, and two gentlemen. She was of a small size, and rather emaciated.

Before the abdomen was opened, it measured forty-nine French inches in circumference, and thirty-eight from the pubis to the xiphoid cartilage. The skin was full of varicose veins. After having made a crucial incision through the skin, which was thick and hard, and penetrated into the abdomen, a most fetid odour escaped, and two quarts of sanguineous fluid were found in the hypochondriac regions, which we supposed to be the result of the accidental inflammation that caused the death of the patient. All the abdominal muscles were extremely thin; the epigastrium lacerated in different parts, and its vessels large and variscose. It was besides adherent throughout two-thirds of its extent to a considerable mass which we imagined to be the uterus. This we removed by an incision made through a part situated between the bladder and the rectum, supposed to be the neck of the organ; for as yet it was known to us merely by conjecture. Having by this step obtained a freer access to the internal parts, we next examined the viscera of the abdomen.

The liver was found in a natural state: the gall-bladder twice as large as usual; the spleen slightly engorged; the pancreas and kidneys sound; the urinary bladder small, thick and hard; the stomach, mesentery, and bowels healthy, except the ileum, which was for the most part gangrenous, being the seat of the disease that occasioned the death of the individual. To give a description of the cause of the gangrene, would extend the length of this paper far beyond the limits I intend to give it. It has besides no connection with the subject in view. I will only remark, that it is probable, if it had not been for the affection of that part of the intestinal tube, the woman might have lived many years more, and perhaps would never have been destroyed by the old disease.

After having terminated the inspection of the parts mentioned above, we returned to the mass put aside, to determine its nature with more precision. We found, as we had conjectured, that it was the uterus: it weighed forty-six pounds. Externally, it was of a whitish appearance, and seemed to be composed of a multiplicity of rounded masses, similar to the pancreas in structure. None of its constituent parts could be distinguished, except the two ovaria, and particularly the left. They were both fringed, flattened on the surface, as large as the fist, and presented absolutely the same consistence and structure as the uterus, which resembled somewhat a kind of sebaceous substance, of a yellow colour. Perhaps it will not be useless to notice, that the right side was more affected and altered than the left, and contained a species of white earthy matter, similar to that found in the joints of gouty persons.

It will be remembered, that after the bleeding in the foot, the ball, which at first occupied the left side of the pelvis, was suddenly dislodged and transferred to the right side! I am sorry, on account of that phenomenon, to have forgotten to ask the woman in which foot she was bled. Besides the appearances described, numerous small bodies were observed, which were at first supposed by the physicians present to be calculi, but on further examination, they proved to be small masses of bone, as hard as ivory.

Till then, although we had divided the uterus in more than three-fourths of its extent, we could not discover any cavity: it was found, at last, quite at the extremity of its fundus, between the ovaria, and appeared rather larger than it ought to have been in a woman who had never borne children. The glands of that cavity, known under the denomination of glandula neibotheii, resembled soft tallow diluted in a fluid not unlike a watery tincture of indigo. Their aggregate volume, much larger than in the natural state, formed about the twelfth part of the total mass. We did not find in the cavity any thing to lead to the supposition that the woman had borne children.

This case, worthy of notice, perhaps, on some accounts, though of very little practical importance, offers two curious phenomena: first, its complete development in the course of a single year; second, its state of quiescence for thirty-two years. The rapid enlargement of tumours, particularly of those called *lipoma*, I am aware, is not uncommon; and I had an opportunity of seeing one, sometime ago, which became so large in the course of two weeks, that one might have said properly it was growing *at sight.* It is, however, quite uncommon to meet with such a growth as that described above, taking place in so short a time. The annals of medical science, nevertheless, contain some cases of diseased ovaria, of rapid development, weighing from fifty to one hundred pounds, and in them have been found, not only the various substances mentioned in the present case, but also bones, teeth, hair, &c. which, according to Doctor Baillie, were not the produce of congestion. I think his assertion may be supported by many facts and strong arguments. As to the quiescent state of the tumour, during thirty-two years, without any apparent increase or diminution of size, I am inclined to think that the individual may have been deceived: and it is more probable that the tumour, without appearing to increase, did in reality do so, if not in bulk, at least in solidity.

It may be remarked, that, since the disease just described has no proper symptoms by which to distinguish it with precision, and is, besides, in its nature, incurable, what necessity is there to mention it? I would reply, that as it is not in the power of the healing art always to cure, it is well that the physician should not promise and attempt to do more than the science is capable of accomplishing. It is well that he should know when to cure, when to relieve, and when only to confide in the powers of nature; for one of these three things will always be in his power, if he has qualified himself properly for the difficul tbut sublime task of a physician. Besides, it is well known, that the variety and great number of diseases that affect the uterus, very often baffle the skill of the most experienced physicians, in the discovery of their distinctive characters, and of course of their treatment. If so, why not confine ourselves, in such cases, more troublesome than dangerous, within the salutary bounds of prudence and *expectation*, instead of tormenting the patient with useless and disgusting medicines; and what is worse, resorting to operations generally fatal? *Quod ego vidi*, *et horesco referens.*

The annals of medicine are full of instances of females, who have lived to a very old age, with considerable affections of the ovaria, as the patient here reported did, although the whole uterus was diseased. Why then should we interfere with the proceedings of nature, when we are full of uncertainty?

These reflections, (not unbecoming, as I would feign hope,) emanating from an old practitioner, will, I trust, be found a sufficient apology for the introduction of this paper, written without the least pretension, but not without a hope that it may be in some degree profitable. In the meanwhile, let both the physician and the patient bear in mind this sentence of a Latin poet:—

> Levius fit patientia quidquid corigere est nefas.

ARTICLE IV.

Case of enormous Tumour of the Ovarium containing Hydatids.

By John W. Greetham, M.D. of Baltimore.

On the 21st of March, 1835, I was requested to call and see Mrs. Brown, who was then, and had been for several months, labouring under a painful distension of the abdomen. I called on the same day, but previously to being introduced into the sick chamber, was informed by Mrs. Vickers, the person with whom she boarded, that the physicians who had seen her before pronounced her to be pregnant, and that according to them she must now be advanced to her eighth month. I now saw Mrs. B. and upon inquiry, was informed by her that she suffered almost constantly with a severe pain in the right side and lower part of the abdomen; comprising the whole of the right lumbar and part of the umbilical, hypogastric and right iliac regions; that she slept very badly,—had head-aches, nausea, and frequently vomited in the morning; that she had had no menstrual discharge for five months, the period which had elapsed since she contracted a severe cold from riding on the top of a mail coach, on her way from Boston to this place. It was to this cold she attributed her disease; for, although she had occasionally suffered pain in the same place before this, yet she had had no swelling of the abdomen since she was a child, when she declared she had been affected in a manner precisely similar, and was then cured by drinking tea made of the nepeta cataria (cat mint). She further informed me that she had never menstruated regularly, or in as large quantities as other women; that she had been married nine years, had never had the least sign of a menstrual evacuation previous to her marriage, and that her husband had been in the habit, for several years, of beating and otherwise grossly maltreating her,—frequently kicking her in the abdomen and private parts. She further informed me that her sister, who was several years younger than herself, was affected in a similar manner.

She had, at the time I saw her, a slight fever, irritation of the stomach, and tenderness on pressing the part already described as the seat of pain; she could bear pressure on any other part of the abdomen without inconvenience. Her abdomen was swelled to about what it would be in the eighth month of pregnancy; it was perfectly tight, and I could perceive no irregularities in any part of it. Auscultation gave no signs of pregnancy, from which circumstance I concluded that if such were the case, the child must be dead, and would consequently soon be evacuated. I prescribed a solution of chlor. pot. ʒ i. bi. carb. sod. ʒ ii. aqua com. ℥ vi.—one table-spoonful to be taken every two hours until her fever abated. This medicine had the desired effect, viz. of diminishing the fever and lessening the irritation of her stomach. She was at this time in the habit of sitting up the greater part of the day, and even of coming down stairs for an hour or two at a time; but more than this she could not do without great fatigue. Percussion gave no sign of either water or air. I therefore concluded the tumour to be composed of some more solid substance; but as she was averse to an examination per vagina, I declined giving an opinion at that time.

On the first of April, it became evident to me that she was not pregnant; for her breasts, which even when I first saw her, were not large, had decreased in size; her stomach was less irritable, and the headache had ceased entirely. But she still continued to have fever every night, and only occasionally slept well.

Several days now elapsed without my seeing her. When I did call, I found her feverish, not so strong, bowels costive, slight irregularity and pain in making water, accompanied by considerable nausea, and vomiting of a coffee coloured, slightly bitterish fluid. I accordingly prescribed the neutral mixture in order to quiet her stomach, and ordered that her bowels should be opened, at least once a day, by some mild cathartic. I called the next morning, and was much gratified with the operation of the medicines; she was much easier and felt better in every respect. Being pressed by Mrs. V. to say what I thought of the case, I gave it as my opinion that there was a disease of either the ovaria or uterus, I could not decide which, and that, to say the least of it, the result was very doubtful.

All the symptoms above enumerated occasionally returned, and were relieved by the same means, until about the first of May, when it was evident that the abdomen, already considerably increased in size since I first saw her, was rapidly distending; her legs and vulva had become œdematus, and all the symptoms were greatly aggravated; the fever was more considerable and of a hectic character. Very little urine passed, and that with much pain and difficulty, and the bowels were never open, except from an injection or cathartic. From the pain and swelling in the region of the bladder, I supposed that it must be distended by urine, and that the difficulty in passing it arose from an obstruction caused by the pressure of the tumour upon its neck; but upon passing the catheter I found that this was not the case, as there was not more than a gill passed; it was then evident that the fault was in the kidneys. I ordered that her bowels should be opened once a day with senna, when she could retain it on her stomach, and when otherwise, by an injection; also, to use occasionally the effervescing draught or neutral mixture to quiet her stomach. Her appetite was bad, and there were few things which she could retain on her stomach. Various diuretics and diaphoretics were likewise used, all of which acted kindly at first, but in a few days could either no longer be retained, or if retained, had entirely lost the power of affecting her. At the time of passing the catheter I made an examination per vagina, which examination confirmed me in my previously expressed opinion; the os tincæ was unusually rigid, and the contour of the tumour was very perceptible.

This brings the case to about the 20th May, at which time I called in my friend Dr. Riley, who, after an examination, perfectly coincided with me in my opinion that the case was a desperate one, and that all we could do was to smooth her way to the grave by gentle palliatives,—which practice was pursued by me until the 3rd of June, when I was informed by Mrs. V. that, at the instance of some of her friends, Mrs. B. had concluded to try the Thompsonians,—she and they being under the impression that I had mistaken the nature of her disease, and that, instead of its being an uterine or ovarian tumour, it was ascites, and that the Thompsonians could relieve her in a few weeks, as they promised to. Mrs. V. and some other of her friends opposed this resolution, but they were firm, and she was accordingly removed to a house in Liberty street, where she was treated by them, and I saw no more of her until after her death, which occurred on the 23d ultimo. I should observe, that during her illness, I had frequently proposed a consultation, but could never induce them to name a physician, and all I named were objected to, until I persuaded them to allow me to bring in Dr. Riley. I afterwards learned that Dr. Chatard, sen. and some others had seen her during the time the Thompsonians had her under treatment, and pronounced a similar opinion of her case to mine. I had been absent from the city for several days, and returned only on the morning of the 24th, when I was informed that she had died on the evening before, and I was requested to make a post mortem examination. I accordingly, at ten o'clock of the same morning, assisted by Dr. Wm. N. Baker, and in the presence of several physicians, opened her, when the following appearances presented themselves, viz. A tumour, as large as a half bushel measure, filled with hydatids, in size varying from a pea to that of an orange; some of them, being torn with the fingers or cut with the knife, poured out a bloody serum, intermixed with a muco-purulent matter; the uterus was partly imbedded in the tumour, but in a perfect state of integrity, although smaller than we usually find it in adults. Its neck was lengthened about an inch and a half or two inches, and the os tincæ was entirely impervious. The right fallopean tube, being cut in opening the uterus, we were unable to trace it out; but the left was traced from the angle to the cellular substance covering the tumour, where it was lost; the tumour adhered with considerable force to the walls of the abdomen in front, and to the peritoneum throughout the rest of its extent, and was of so considerable a size, as to displace all the contents of the abdomen. The stomach and rest of the intestinal canal exhibited a slight blush of inflammation as far down as the rectum, several inches of which had entirely lost its character, having become thin, semi-transparent, and of a bluish colour; the kidneys exhibited marks of inflammation, and the renal capsules were more distinctly marked than in any kidneys I had before seen; they also contained a small quantity of pus;—the rest of the viscera exhibited no marks of disease.

Was the swelling which she spoke of having had in her childhood of the same nature? If so, was it cured, or only arrested in its progress by the nepeta cataria, and again excited into action by the maltreatment of her husband, and the cold contracted on the top of the stage, or both?

These are very interesting questions, but difficult of solution; for we have as yet no satisfactory explanation by which to account for the formation and growth of such tumours, and until such explanation is had, I must incline to the opinion, that there is in such women a predisposition to diseases of this nature, which is excited into action and developed by accident, ill treatment, or severe indisposition. In this particular case there evidently appears to have been a predisposition; for even if we except the abdominal swelling in her childhood, the fact of her never having properly menstruated, taken in conjunction with the fact of her sister being afflicted in a similar manner, leads us to infer that something was wrong with her genital organs, and that there was a family predisposition to such diseases. She besides received such ill treatment from her husband, as could scarcely fail to injure the parts, and thus cause the disease, already disposed to shew itself, to be developed. We also find her contracting a very severe cold, from which time the menstrual evacuation, never regular, is entirely arrested, the abdomen begins to enlarge, and the disease proceeds with fearful rapidity. A case is reported in Cooper's Surgical Dictionary, on the authority of Dr. D. L. Rogers, which likewise appears to have been excited into action by a cold, contracted on board a vessel, whilst on her passage from Ireland; this case, with some others which are quoted, were successfully operated on; but I cannot suppose that this mode of proceeding could be resorted to with propriety, except in very few cases.

I have made this report of a very interesting case, simply with the view of drawing the attention of the faculty to the frequent occurrence of such and similar diseases, and with a hope that it may induce some older and abler pen to examine the subject more fully than it has hitherto been, and thus be the means of giving to the world some satisfactory explanation of the causes which induce it, and a mode of treatment which would be likely to benefit the sufferers.

ARTICLE V.

Extirpation of the Thyroid Gland. By N. R. Smith, M.D. Professor of Surgery in the University of Maryland.

On the ——— of ——— I was consulted in the case of Mrs. Wells, of Prince George's county, labouring under a formidable tumour of the neck, on account of which she had visited Baltimore. The origin of the disease was dated as far back as 1815. Mrs. W. was about forty years of age, the mother of several children; of spare habit and sickly aspect. She was able to be upon her feet for some part of each day, but was incapacitated for attending to her domestic concerns. Her residence had been for many years in a district of country in which diseases of malarious origin are common, and she had, in the course of her life, suffered attacks of intermittent and bilious fever. About one year previous to her becoming my patient, she had suffered a most violent attack of the latter, from which her recovery had been for some time doubtful.

The general aspect of the tumour, as it presented itself on my examination, is given with accuracy in the accompanying lithograph. The idea of its size and form cannot probably be rendered more perfect by any verbal description which I can give. It occupied the whole space between the os hyoides above, and the sternum below, and by its weight it had assumed something of a pendulous form, falling over the margin of the sternum. The general configuration of the tumour, in short, was that of common goître, and when the integuments were entire it presented the varicose veins usually conspicuous in that disease.

Some months before the case fell under my observation, the skin covering its most prominent and dependent point had ulcerated, and all the means which had been employed to effect the cicatrization of the sore, had failed. There had now issued from this breach of the integuments, a dark, fungous excrescence, represented in the drawing, and presenting a strong resemblance to the fungous hæmatoides. From this excrescence there issued a sanious and offensive discharge, and occasionally slight hemorrhage had occurred.

On carefully examining the relations of the tumour, (together with Professor Geddings, whose advice I requested,) we became satisfied that it was one of the thyroid gland, the right lobe of the organ being chiefly concerned. We could distinctly feel and see the sterno-hyoid and sterno-thyroid muscles passing like tense ribbands vertically over the tumour. The margins of the sterno-mastoid muscles, on each side, were raised and spread upon the sides of the tumour. More obscurely, the situations of the omo-hyoid muscles were also discerned.

The superior thyroid artery of the right side was distinctly felt and seen, descending superficially, in a tortuous course, obliquely upon the lateral and anterior portion of the tumour. The left thyroid artery could be obscurely felt. On handling the tumour for the purpose of determining its deep attachments, we could readily cause it to glide beneath the muscles of the neck and upon the trachea and larynx; but owing to its magnitude, it was impossible to determine the nature of all its relations with the deeply seated parts on which it rested. We satisfactorily ascertained, however, that the great vessels of the neck were not involved in, or adherent to, the tumour.

On carefully weighing all the circumstances of the case, it was manifest that there was no rational ground for hope that any course of palliative treatment would arrest the progress of the disease, or effect the cicatrization of the ulcer. The propriety of attempting the complete extirpation of the tumour was now considered. We arrived at the conclusion that the operation would be attended with extreme difficulty, and great peril to the patient, but, as a dernier resort, we regarded it as justifiable in case the individual and her friend, on being made acquainted with the circumstances of the case, should desire the attempt to be made. In a few hours I was informed that our patient had firmly resolved to place herself wholly in our hands, and cheerfully to incur the hazard of any course we might see fit to pursue.

On the —— of —— I performed the operation, with the assistance of Professor Geddings, Dr. Whitridge, Dr. Thomas, of Elk Ridge, and several medical pupils. I commenced the operation by making, in the integuments, an elliptical incision, the length of which corresponded with that of the neck. Its central and broadest portion included the ulcerated and fungous portion of the tumour. I then commenced my dissection around the body of the tumour on the right side, it being my design to expose and secure as quickly as possible the thyroid artery. This I soon effected, though in consequence of its exceedingly tortuous course, I wounded it and secured it at more than one point.

I now proceeded to raise the border of the sterno-mastoid muscle, and lay it back from the tumour. In doing this I encountered (that which does not usually exist) the anterior jugular vein, the vessel being somewhat withdrawn from its close proximity to the border of the sterno-mastoid muscle by the fascia involving it, which was tensely drawn over the anterior part of the tumour. As the muscle was retracted with some force, such tension of the parts was necessarily produced, as compressed the vein, and emptied it of its blood. The wounding of the vessel, under these circumstances, was therefore scarcely to be avoided. Blood soon flowed freely from the wounded vessel, its flow being hurried by the struggling, and deep, strong breathing of the patient. I was perfectly aware of the great danger of the inhalation of air into the vein, and the fatal consequences which might be expected to result from its reaching the heart in any considerable quantity. I, therefore, while making efforts to secure the vessel with the ligature, was careful to grasp the border of the sterno-mastoid muscle, including the lower portion of the vein, with the finger and thumb. The vessel was secured with the armed needle; but notwithstanding my utmost care, I twice distinctly heard the gurgitation of a small bubble of air, as it entered the vein, at the moment of a strong and deep inspiration of the patient. For a moment I desisted from the use of the knife, and looked in the face of my patient to observe the effects of the ingress of air into the veins. Happily the quantity was not sufficient to produce any obvious effect, and I proceeded with the operation.

Having now passed through the strata of blood-vessels which pertains to the muscles and to the border of the thyroid gland, I proceeded in my dissection with much greater facility. On the left side I effected it with much more ease than on the right; but here also, on the division of one of the thyroid veins, I distinctly heard the gurgitation of air. To guard against its repetition during the remainder of the operation, I was careful, whenever I divided any fascicules which might be supposed to contain veins, to grasp it firmly with the finger and thumb below the incision, and if blood flowed from the upper portion, to secure the lower with the ligature. I should have remarked that I found it necessary to divide the tendon of the omo-hyoid muscle on each side.

As I progressed with the dissection of the tumour from the deep-seated parts, I found it necessary to proceed with extreme caution. The sheath of the great vessels on each side lay in immediate contact with the tumour, and, indeed was to some extent incorporated with it. I also found that the fascia covering the thyroid and cricoid cartilages was thickened, and adherent to the tumour. Its separation from these connections was the most tedious and difficult part of the operation. The separation of the tumour from the parts immediately above the border of the sternum, where I was prepared to expect great difficulty and danger, was effected with infinitely more ease than I had anticipated. The vessels in this region appeared, by the traction of the tumour, to have been elongated, and to some extent obliterated. The thyroid artery, particularly on the right side, presented the appearance of a long, loose, hard cord, pulsated but feebly, and was secured without any difficulty, being drawn out with the tumour. On the left side I secured nothing but branches. The veins of this region were neither numerous nor large, they having no doubt been diminished by the pressure of the parts upon the sternum.

At length I succeeded in effecting the complete removal of the tumour. There was now left a frightful chasm in the throat, the larynx being dissected quite bare, especially on the right side, and the trachea exposed as low as the border of the sternum. The great vessels on each side were also seen throbbing in their sheaths. The recurrent laryngeal nerve was distinctly seen on the right. The last point from which I detached the tumour was a portion of the thickened tissue covering the thyroid cartilage, and its attachment here was very firm. When I had severed it, two or three minute arteries sprung, one of which I immediately secured; but as the hemorrhage then appeared to cease, I did not take up the others.

The operation was necessarily painful and protracted, its execution occupying an hour; the patient, however, endured her sufferings with wonderful fortitude, and at no time did there take place any alarming sinking of the powers of life. Twice or thrice, at her desire, I had delayed a few minutes to allow her a moment of comparative repose, but neither then, nor after the operation, did there appear to have been inflicted any serious shock.

I now directed the administration of tinct. opii. gtt. L. closed the wound with the interrupted suture and adhesive strips, and placed my patient in bed, leaving her in a more comfortable state than could have been expected. She swallowed liquids without difficulty; her voice was but little altered, and her breathing not difficult. I found her doing equally well in the evening.

In the morning, on visiting Mrs. Wells, I was alarmed at finding the dressings bathed in blood which was still flowing from the wound, and evidently of the arterial hue. I immediately cut the stitches, opened the wound, turned out a mass of coagulated blood, and found the bleeding to have occurred from a minute artery seated where the last attachment of the tumour had been cut away. I secured the vessel with the ligature, and as there was a disposition to hemorrhage from minute vessels, I applied to the part a small compress of lint dusted with alum powder.

I should here remark, that on opening the wound for the purpose of arresting the hemorrhage, I found it to a considerable extent united by the first intention. By this bleeding, and by the irritation resulting from the coagula and the opening of the wound, my patient was much prostrated. She complained of a sense of extreme faintness, suffered much from urgent thirst, and once or twice vomited. These unpleasant symptoms soon, however, disappeared, and again the case presented a favourable aspect. There remained but little pain in the wound;—she swallowed with effort, but yet without great difficulty;—there occurred an occasional paroxysm of coughing; but it was not distressing;—her stomach received food kindly, and her bowels responded. Indeed, for the four subsequent days, I had every reason to expect a favourable termination of the case.

On the fifth day, however, there occurred a severe rigor, followed by fever, sonorous and embarrassed breathing, cough, and irritability of the stomach. It passed off with a sweating stage, precisely as a paroxysm of intermittent fever. The wound, which had suppurated kindly, now began to exhibit a flabby appearance, and to discharge an unhealthy secretion.

It is not necessary that I should relate the subsequent progress of the case; suffice it to say, that the rigors recurred every day, notwithstanding our endeavours to parry them, and that the patient expired on the 13th day. The chills were evidently of malarious origin, and my patient undoubtedly came to me predisposed to intermittent fever. To this, in part, I think I may with propriety ascribe the fatal result.

From the brief account which I have given of the steps of the operation, it is manifest that the large arteries which are thought to present the most important difficulties in the operation, are by no means so much to be dreaded, as has been believed. It also appears, so far as a single case goes, that the ingress of air into the veins is the source of greatest danger during the operation, as I believe it to be in all operations upon the throat. This, however, is the third instance in which I have witnessed the introduction of a small quantity of air into the veins without an immediately fatal result.

I should remark that I now have the tumour preserved, and an examination of it clearly shews that the entire gland was removed. Professor Geddings, on examining it after its removal, pronounced the diseased gland to be entire.

It is rare that a case occurs which will justify the attempt to remove the thyroid gland; but the above case appears to me to warrant the belief that it may be undertaken with hope of success. Instances in which the operation has been successfully accomplished are, no doubt, fresh in the mind of the reader.

ARTICLE VI.

Remarks on Malignant Cholera. By Richard Sexton, M.D. of Baltimore.

Although many volumes have been written of late years on the subject of malignant cholera, yet, investigations relative to its nature and treatment are certainly still appropriate. We would, therefore, essay to condense a few practical remarks and inferences, suggested from observation of this epidemic during its existence in the city of Baltimore in the years 1832 and 1834.

In the former year, the cholera made its first attacks in North America. Whether or not to the world in general a 'nova pestis,' with the European race on this continent the malady certainly bore that extraordinary character. Its progress, in previous years, westwardly through Europe, had been observed with anxiety by the inhabitants of the United States; but as long as the broad bosom of the Atlantic separated us from the theatre of the pestilence, a hope of immunity was reasonably entertained by those best acquainted with the history of its mysterious movements. However, the irruption of the epidemic at Quebec and Montreal in June, 1832, disclosed the alarming truth, that what had been acted to the terrour of foreign nations was about to be repeated in our own country.

Progressing southward and westward, the disease broke forth in Baltimore at the beginning of August, and realized, in some degree, the apprehensions of danger which had been previously conceived. The deaths were not proportionably so numerous as some other American cities were doomed to exhibit, but the destruction of life was sufficiently great to impress on the minds of all the gloomy certainty of imminent individual peril. The disorder existed three months. In the western states it raged a second time, in 1833, proving at certain places excessively malignant; but it did not appear east of the mountains, except sporadically, and in that manner only to a small amount of cases. Here, however, the population, far and wide, breathed an air inquinated with matter, causing irritability of the alimentary canal, as was demonstrated by the frequency of diarrhea and colic, and the increase of sufferers with dyspepsia. In the first part of the summer of 1834, an irruption of cholera occurred almost simultaneously in several of the seaports and inland towns of the United States, and in the cities of Canada. At Baltimore a few cases were observed from July to October, in which latter month they increased in number to an epidemic, but did not occur so frequently as to generate much alarm among the citizens. The Board of Health reported only about seventy deaths. Cold weather has heretofore exerted sovereign power over the pestilence, in the United States,—of which assertion its sudden cessation in Baltimore, at the middle of November, 1834, offers a fine exemplification. On the 16th day of that month a vicissitude in weather occurred, accompanied with a slight fall of snow, and a temperature below freezing. Attacks had been numerous daily up to this period, but in three or four days thereafter, although revisited by the ordinary autumnal mildness, a new case could not be found in any part of the city.

During each visitation to the city of Baltimore, malignant cholera was observed under two forms:—

1st. In its proper type;

2d. Mingled with the endemial fevers.

In its first form the disease verified the description given by authors of its most malignant development. There were recognized the characteristic watery discharges, the peculiar and most remarkable cold stage, the distinctive spasm, and that intractability when subjected to remedial restraint, which has rendered the disorder an object of dread throughout the world.

The second, or modified form, was a frequent type of cholera, in both seasons of its prevalence. This pestilence appears to possess a propensity for blending itself with other epidemic affections, though its disposition thus to amalgamate has received but very slight notice,—and those instances in which it has been observed complicated with a fever of a known type, have been adduced by authors, with the view of proving, that the disease is in essence but a fever of a malignant character.

There is, however, an original form of cholera, which is marked with but little of the nature of fever. Authors have accurately pictured three stages, the premonition, the cold stage, and the reaction,—of which the first and second have rarely, if ever, been considered as caused or accompanied by inflammation of tissue. But in the last stage the phenomena have varied in different portions of the world. In India the original form of the disease is the prevailing one; and in this type the reaction is simple, not being coexistent with any inflammatory or febrile symptoms. To confirm this statement, numerous authorities at once occur to the medical reader; but none offers such a mass of testimony on the point, as the "Report of the Madras Medical Board,"* in which are given the individual histories of cholera, drawn up in different years by sixty-five physicians and surgeons, but eight of whom mention any disorder consecutive to the reaction. In Europe and the United States the reaction is almost always a stage attended with inflammation and congestion; although, perhaps in most of the places in these countries where cholera has raged, cases are not wanting where there was as much freedom from fever and inflammation as is customary in India. The well authenticated variation in the appearance of the advanced stage in different regions, does not insinuate, as some would suppose, a diversity of cause, but only offers another illustration of the ascertained fact, that, under similar causes, the sthenic constitution of the inhabitant of the temperate zone is more disposed to inflammation than the system of him relaxed by the sultry breezes of the tropic. Independent of the change in type resulting from difference of climate and constitution, cholera has at certain places clothed itself with vestments peculiar to those localities. These are instances where it has blended itself with another epidemic of simultaneous existence. The following condensed quotation from Searle bears on this point.* "At Warsaw, in Poland, a milder species of cholera was exceedingly prevalent in August, during which month fever and dysentery are annually extremely common. The attack commenced with languor; a coated, or an unusually clean, smooth and red tongue; lips pallid, or of a leaden hue; and the digestive organs generally impaired in their functions. Bowels at first constipated, a state succeeded in general by relaxation; and this terminating not unfrequently in bloody, muco-purulent evacuations, or, in other words, in dysentery. In this condition, change of weather, improper diet, or exposure, develops the purging or vomiting, cramps, lividity, cold skin and feeble pulse of cholera; a state which, if relieved, is almost invariably succeeded by fever of an intermitting or remitting type." This extract relates an example of a curious combination of cholera with fever and dysentery. The recognition of the fact, that the malignant malady, from difference of constitution and climate, varies considerably in its symptoms, and that it will mingle with other epidemics, renders manifest one important practical truth, that no principle in treatment nor class of remedies, can be of universal application.

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* See Medico Chirurgical Review for April, 1832.

The following concise description will represent those examples which came under my notice, where cholera was evidently modified by the fevers endemic to this State. In one variety of cases, the discharges at the onset were copious, and of the same appearance as in the original form of the disease; but without extreme loss of serum, a cold stage commenced, in which the patient complained of chilliness, as in the same condition in intermittent fever. Reaction of a febrile character followed speedily, and the discharges became coloured with bile. Successive chill and reaction, which, however, never equalled a violent fever, often prolonged these cases through several days; whilst the stomach and bowels continued irritable, and the dejections watery throughout. A second variety of these cases was distinguished by the vomiting and purging of fluid of a blackish or greenish hue, from almost the commencement of the sickness, with a pulse for some days full and frequent, indicating a continued, though a moderate fever. Associated with these symptoms, were cramps and sunken features, by which the presence of the malignant epidemic was unerringly recognized. Another class of these amalgamated affections, in which cholera was predominant, broke forth with copious serous evacuations, and a chill at the same time, and after the person was almost exhausted, reaction occurred in the form of a fever, with great congestion in organs, a brown tongue, and other indications of typhus.

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* Bell and Condie, p. 69.

The mingling of malignant cholera with miasmatic fever might be argued *a priori* to constitute a hybrid inevitably fatal. Experience, however, will probably establish such an argument as a sophism. A fever with bilious evacuations appears to counteract the destructive nature of the pestilence. Searle, as quoted before, describes its commingling with fever and dysentery at Warsaw, as productive of a milder species of the Indian epidemic.

The autumnal fevers at Baltimore, in the years 1832 and 1834, were associated with a few of the symptoms of cholera, and cure was in general more readily effected than in ordinary years. This statement does not apply to the city alone, in which malaric disorders are neither abundant nor fatal; but in those localities in the country where, under the fervid summer of Maryland, a miasm is always matured of sufficient strength to engender numerous and violent fevers, the population was favoured with its annual endemic, combined with a laxity of the bowels and an emetic disposition of the stomach; which symptoms, resulting from the universal inquination of the air with the cholera cause, had the effect of lessening fatality in the fever. In cholera, the prominent seat of disorder is the mucous tissue of the alimentary canal, which, either by secretion or by percolation, effectuates the discharge of the serous juices of the body. The first tangible location of fever being in the same tissue, no surprise need be expressed that one disease should exercise some influence over the other. Observation is to decide whether this reciprocal power is constantly exerted to the amelioration of both disorders.

Every physician, who is called upon to treat cholera, has as yet to mourn its unmanageable nature, after progressing to the second and third stages. The commencing diarrhea and vomiting, existing without coolness of the extremities of the body, is the only condition which includes the probability of cure. Cases were, however, occasionally found at Baltimore, which, in the advanced stages, were brought convalescent by the use of means simply cordial in their effects. If no agency was thus afforded in curing the disease, no impediment was offered to the sanative powers of the constitution. Judging from various accounts, similar success has frequently resulted at other places by a treatment equally mild. The following case may be related as an example of the ease with which, at times, an attack of apparently the most malignant character may be overcome.

A healthy female was seized with vomiting and purging in the night. When first seen by the physician in the morning, there was no pulse at the wrist, and the other symptoms were those marking the advanced state of the cold stage. A tea-spoonful of the tinct. guaiac. ammoniat. was poured down the throat every fifteen minutes. Under this cordial the pulse gradually returned, and the same remedy was continued at longer and longer intervals. No other medicine was administered, except a small quantity of the pil. hydrarg. and the patient was able in three or four days to attend to a laborious avocation. In this instance the third stage was not accompanied with any signs of inflammation or congestion, but seemed merely a state of debility.

Other cases could be narrated in which a favourable termination followed the use of tinct. guaiac. ammoniat. spiritus camphoræ, and ether. sulphuricus, given in small doses. These persons were first visited in the cold stage. No other instance came within my knowledge, of a recovery equally rapid as that related above, from this treatment, or indeed from any other. Under this unobtrusive management patients frequently lingered five or eight days, before death or convalescence occurred. I can by no means recommend so negative a treatment, but I think some instruction can be gleaned from at least the delay of death, which occasionally results through its use. The physician may learn to be more patient in advising for the advanced forms of cholera, and not invariably to fear a speedy dissolution, merely because the extremities of the sufferer are cold, and the warm current of life does not flow at the wrist with its accustomed force. On the first appearance of this disease in a place, there is a natural tendency to invoke the aid of a heroic treatment. The symptoms seem to demand instant relief, while the known malignancy of the disorder alarms both physicians and friends. But experience, I am convinced, will always reveal, that much friction of the limbs of the patient, moving him to and fro on the bed, frequent enemata, repeated sinapisms, and immense doses of remedies, will, directly or indirectly, add to the strength of a virulence, which a more judicious treatment could have overthrown.

Bloodletting, calomel, and opium, coming highly recommended from abroad, were received in open arms by the physicians of this city. Venesection afforded results highly satisfactory. The first and last stages appeared to be the most proper seasons for drawing blood. Although the abstraction of a few ounces of the patient's dark, glutinous blood would, in the cold stage, frequently relieve the distressing cramps, yet, in those cases from which blood was then taken away, I do not recollect to have seen much permanent advantage plainly exhibited. One instance came within my knowledge, where a patient, after moderate bleeding in the cold stage, directly and rapidly sank. Kirk relates a case,* in which the loss of six ounces was immediately followed by complete collapse and death.

The English physicians and surgeons are the chief advocates for the use of calomel in the disorder, and they have administered it very extensively in their own isle and in India. On the continent of Europe this therapeutic agent does not appear to be popular as a remedy for the epidemic.

On this point one thing is certain, that if a practitioner, led away by the peans sung to the remedy by some authors, should administer it in cholera, under the pleasing expectation of its proving a specific, his hopes thus sown will scarcely yield else than a harvest of disappointment. I would refer to the numerous instances in Baltimore, where from one to three hundred grains of the protochloride were thrown into the patient, and after having produced ptyalism, the best evidence of a constitutional subjugation by the medicine, the termination of the cases was nevertheless in death. Roupell, in his Croonian lectures, informs us that the constitutional action of mercury is no antidote, even when obtained before the occurrence of the cold stage. One weighty objection to the administration of calomel is formed by its cathartic power. The chief ends to be desired in the treatment of the pestilence are, to arrest the discharges and to change their nature. At Baltimore, the latter object was most readily obtained by effecting the former for a period of twelve or eighteen hours. Unpleasant symptoms never followed the sudden restraint of the evacuations, except where miasmatic fever was blended; on the contrary, the circumstance was, in most instances, the premise of a favourable prognosis, or the immediate harbinger of recovery. If, then, the maintenance of a great quiet in the bowels of the patient be a desirable object, every substance of a cathartic action must of course be contra-indicated. If we allow cholera closely to resemble a hemorrhage, as many are of opinion, then analogy forbids catharsis: for no judicious physician would use an errhine in epistaxis, or an emetic in a vomiting of blood.

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* Practical Observations, p. 65.

With regard to opium, Bell and Condie write thus: "No remedy has been proposed in the treatment of cholera, which has so great a mass of testimony in its favour.' In this city, opium proved of undoubted benefit, or of indisputable injury, according to the condition of the disease when administered. During the premonitory diarrhœa, the use of opium was safe and efficacious. In the cold stage, however, the exhibition of the article in narcotic doses was decidedly disadvantageous to the patient. The truth is, if a case in the cold stage received five or six grains of opium, death, who, at this period, always stands by in expectation, was never disappointed of his object. One cause of the injurious consequences of the remedy is, without doubt, its power of determining the blood to the brain. This vital fluid, being deficient of tenuity, can circulate but sluggishly, and the consequent engorgement with thickened blood, of so lax a tissue as the brain, must necessarily be irremediable.

To sum up the detail of the treatment, most successful in my hands, the amount is thus. The first stage at Baltimore was commonly in the form of a diarrhœa, of from twelve hours to several days' continuance; but, sometimes, in the form of a copious vomiting and purging, or an ordinary cholera morbus, of from two to twelve or more hours in duration. Opium, astringents, wet and dry heat to the skin, and venesection, seemed appropriate in this condition. Kino, catechu, or nut-galls, in infusion, made useful astringent injections: but one fact relative to their use became apparent, which was, that the large intestine sometimes became insensible to astringency; and under such a circumstance, the bulk of any enema, only excited additional peristaltic action. Calomel and opium was the ordinary combination used through the city for this stage: of which prescription, I have only to remark that, if calomel be at all given, a large dose at once answers any good effects obtainable from mercury, while it proves no more purgative than a smaller quantity. Calomel was indisputably useful whenever fever was blended with cholera; for such cases bore catharsis, in proportion to the amount of the febrile ingredient. When the patient complained of a dull pain and sensation of weight in the intestines, venesection, as likewise local abstraction of blood proved particularly serviceable. Infusions of pimento, ginger, and other spices, checked many diarrhœas. A recumbent posture was an important item in every treatment. Drunkenness has long been noted for its rendering the body altogether incapable of withstanding an attack of cholera; and in twelve cases of habitual drunkards for whom I prescribed, —and some applied early in the diarrhœa,—not one was saved: whereas of those, whose constitutions were not injured through the abuse of spirits, scarcely one in twenty or thirty died, if proper ministration was afforded in the first stage.

Near the termination of the epidemic in 1832, and in some cases in 1834, I used for the premonitory diarrhœa, a pill composed of one part opium, and three or four parts of the blue mass; and out of eighteen cases alarming diarrhœa, and about thirty cases of a milder type, in which this combination was the prominent remedy, but one arrived at the cold stage. So very favourable a result was, no doubt, partly owing to the caution and temperance of the patients: still, the prescription is most valuable for the premonitory laxness. The blue mass stands recommended by high authority, as a remedy for the disorders of the digestive organs; and in cholera, offers any remedial power in mercury, without exerting much cathartic action.

The cold stage commences with a coolness of the hands and feet. The first cases in 1832, were almost all unvisited by a physician until arrived at this stage; for the public generally, and even the medical men, could scarcely credit the reality, that so fatal a pestilence should be disguised under the mild form of a diarrhœa. The chief object was now to check the discharges; for, if they were not suppressed, or much restrained, death was inevitable. But therein lay the difficulty. The means apparently the most successful were astringents, cordials, and stimulating applications to the skin.

Of the beneficial effects of cordials in cholera, there cannot exist a doubt. The fame of camphor has been sounded over the whole globe. Guaiacum, serpentaria, and other vegetable substances of the same stimulant and diaphoretic properties, have been administered with marked advantage. These articles are best given in a small dose, and frequently repeated, for two reasons: one is, that they thus more certainly lie on the irritable stomach; the other, that the disease can not be cured by stimulation; consequently, the hope of forcing the patient into convalescence, by large doses of these, or other stimulants, must be abandoned.

The injurious effects of opium in soporific quantities, administered in the cold stage, have already been mentioned. In a few cases, a very small dose of denarcotised laudanum, given twice or thrice in this stage, evidently lessened intestinal irritability, without causing to the patient any injury that could be detected.

The stage of reaction exhibited a partial or complete return of warmth; succeeded, in some cases, by a febrile state, abounding with many unusual symptoms, the rationale of which is very obscure: and, in other instances, by a condition fluctuating between heat and cold, fever and diarrhœa. The secretions of bile and urine now recommenced. When the watery ejections were perpetuated into this stage, the means useful in the last were still imperiously demanded. There occurred cases in which the bowels became locked for days; where an enema, always to be prescribed first, for fear of too free evacuations, would have scarcely any effect, and where an active purgative would operate but imperfectly with, however, great relief to the patient. These cases have heretofore been rare in Baltimore; on the contrary, if the bowels became quiescent, they were to be disturbed with great caution. I have seen recoveries take place when no interference was offered for several days to a costive condition; and I have likewise witnessed hypercatharsis and death in those who had given confirmative signs of convalescence, by the exhibition of cathartics, with the view of relieving real or supposed gastroenteritis. When cholera, in this stage as well as in others, appeared in the insignia of malaric fever, then cathartics became less dangerous, and frequently very salutary.

The sphincter ani is liable to become weakened, or completely paralyzed. In this condition, Dr. Clanny, of Sunderland, recommends plugging the rectum with a greased thick wax candle: which plan is said by Kirk, to fulfil its intention. I have not practised the scheme, but have used, for the support of the anus and rectum, a T bandage, with a compress against the anus. In one case I thought much benefit resulted from bandaging the whole abdomen; the discharges decreased, and the patient expressed a feeling of comfort through the relaxed intestines.

The acetate of lead was used in 1834, by many practitioners of this city. It was exhibited, in all stages where the bowels were loose, in doses of from five to twenty grains. After the patient took the substance, the dejections changed to a dark blue colour. This article would sometimes promptly arrest the diarrhœa; but again, it frequently failed, even in the first stage, after being administered to the amount of a drachm. The remedy certainly deserves further trial. The diet of the patient must be very strictly overseen. Very little practice in the epidemic will disclose, that the stomach, previous to, and during, an attack, is almost entirely destitute of functional power. Hence, far more caution is requisite in directing the diet of persons under cholera than those under fever. The maranta is a substance which will occur to every practitioner's mind as very suitable for the case, since, if it should not digest, its mucilaginous nature would render it medicinally soothing to the intestinal mucous membrane.

It will be perceived that the foregoing remarks include a treatment, destitute to a great degree, of the characteristics of heroism. After the partial or sole management of about 250 cases, in the various stages and combinations, for relieving which a great variety of practice was pursued, I have concluded that a calm and patient system of management is preferable to any which may keep the patient excited, may make repeated and large draughts on his nervous energy, or which may attempt to vanquish by some bold stroke, the probable consequence of which will be rather to conquer the patient than the stubborn malady.

Is malignant cholera atmospheric or contagious? I would not desire to occupy these valuable pages with the discussion of a question which, every medical library bears testimony, has been copiously argued in many a bulky volume. I wish merely to record an individual opinion. The facts brought forward by disputants on the contagiousness of the disease, exhibit great incongruity in their nature. When one party decide that cholera is propagated solely by atmospheric constitution, an abundance of strong facts is readily ushered forward to render its decision apparently judicious; and if another party declare the malady to be contagious, every unprejudiced person must admit that the conclusion is correctly deduced from several occurrences, known as indisputable in medical and in political history.

What better order can be made to arise out of this chaos of strong fact than simply this: that the disorder owes both origin and perpetuation to atmospheric constitution or miasm, but that effluvia from the diseased body is one cause of its extension?

We need not allude to other diseases which are believed, by some authors, to be propagated under similar principles, only with the view to remind of the fact: for that scarlatina, rubeola, and pertussis, receive extension through both ærial miasm and personal contagion, is an opinion defended by several noted medical writers. Malignant cholera should be classed under the same head, as in all probability, should be likewise arranged, the whole of those awful pestilences which, in different ages, have overrun nations and continents.

The greatest difficulty against admitting this opinion, is in its philosophy. Thus: Does nature require two such active agents to propagate a disease, when either would be amply sufficient to effect her object? Can the personal contagion be the same in substance as the atmospheric miasm? And it must be so, or how can dissimilar first causes produce the same disease? These are rational inquiries, but they are those of speculation: to answer which, are brought forward the opposing facts. The observation of actual occurrences constitutes the only mean by which the truths of nature can be determined by mankind. Therefore, it is more proper first to seek for facts, and then to permit a natural conclusion to flow from their tenor, rather than to embrace an opinion deduced from partial circumstances, or from speculative views, and, afterwards, to endeavour to force all the premises to bow down to the support of such a conclusion.

SELECTED PAPERS.

ARTICLE I.

Experiments to discover the presence of Urea in the Blood after the extirpation of the Kidneys. By L. GMELIN and F. TIEDEMANN, conjointly with E. MITSCHERLICH.

(Translated from the German for this Journal.)

THE well known experiments of Prevost and Dumas[*] have so important a bearing on the subject of secretion, that notwithstanding the confirmatory investigations of Vauquelin and Ségalas,[†] we have thought proper to resume the inquiry.

On the 14th January, 1832, a 11 o'clock in the morning, we extirpated the right kidney of a healthy pointer, by making a longitudinal incision through the skin and muscles in the lumbar region, by which the gland was exposed surrounded by its capsule. The blood-vessels and ureter were then laid bare, and included in ligatures, after which the organ was removed. When the ligatures were drawn the animal yelled with pain. The edges of the wound were finally closed by suture.

On the day succeeding the operation, the dog was allowed milk and water, of which he partook freely. Up to twelve o'clock on the succeeding day, he passed neither urine or fæces, but in the course of the evening both were freely voided. The wound suppurated but slightly, and the healing process advanced so rapidly, that by the fourteenth day it was completely cicatrized. He continued to take food and drink, voided both urine and fæces, and was as well as before the operation.

On the 11th of February, at 11 o'clock, we proceeded to extirpate the left kidney, the thermometer of Celsius, placed in the mouth of the animal, indicating a temperature of 38°. When the gland was exposed by a longitudinal incision, it was found very vascular, and was one third larger than the right, which had been previously removed. This was evidently owing to its exalted activity, and the consequent increase of nutrition. At two o'clock, P. M. the dog was found laying on his side, and a mixture of milk and water, which had been placed before him, had not been touched. The action of the heart was accelerated;

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[*] Journal de Physique, tome 95, p. 212; also, Annales de Chimie et de Physique, vol. 23, p. 90.

[†] Magendie Journal de Physiologie, tome 2, p. 354.

the nose was warm and dry, and the thermometer placed in the mouth stood at 38½°. In the course of the night he vomited some bilious matter and passed a greenish yellow coloured stool. He also took a portion of the milk and water which had been placed before him.

Feb. 12. He was somewhat dejected, and vomited several times a watery fluid mixed with greenish brown coloured mucus, in which two joints of a tape worm were discovered: he also had an evacuation by stool of thin, greenish coloured matter. The nose was warm and moist; and occasionally he took a small quantity of milk and water.

The vomiting and difficulty of swallowing continued until the morning of the 13th: the animal was much dejected, heavy, and affected with frequent rigors. The heat of the body diminished; the pulsations of the heart became slow and feeble, the respiration irregular; and death took place about nine o'clock.

On opening the abdomen, the peretoneum was found inflamed, and containing a purulent fluid. The vessels of the stomach and intestines were gorged with blood, and the mucous membrane of the former organ exhibited evidences of inflammation, and within it was a mucous fluid tinged with bile. The liver was highly vascular, increased in size, and exceedingly fragile; the gall-bladder filled with dark-coloured bile; and the intestines contained in them fluid mixed with bile and mucus. The right side of the heart, especially the auricle and vena cava, contained dark red coloured coagulated blood; the lungs and spleen were healthy; but in the ventricles of the brain, more fluid than usual was found. The blood and other fluids were collected, in order to test them for the presence of urea.

The fluids were examined in the following order: 1, those ejected by vomiting; 2, the blood obtained from the large vessels after death, which amounted to about two ounces; 3, the bile; 4, the contents of the small intestines; and 5, the matter passed by stool.

All these materials were evaporated to dryness over a water-bath and diffused in hot water. This mixture was filtered,—the fluid thus obtained treated with acetate of lead, and again filtered. The fluid obtained by the second filtration was partly treated with the addition of carbonate of ammonia; partly by adding hydrosulphuret of lead.

When carbonate of ammonia was added to the matter ejected by vomiting, the blood and the bile, a precipitate was obtained. This was separated by filtering, evaporated to dryness, and treated with concentrated alcohol. The residue which was obtained by evaporating this alcoholic solution to dryness, was dissolved in a small quantity of water, and into this fluid, after filtering it to separate a few flocculi which were diffused through it, a small quantity of concentrated nitric acid was conveyed, guttatem, through a glass tube surrounded with ice, in order to obviate any elevation of temperature.

The fluids obtained from the small intestines, and the fæces passed by stool, were freed from the hydrosulphuret of lead; then, after being filtered and evaporated, were treated with alcohol, water, and nitric acid, in the manner just mentioned.

The following were the results obtained: the fluid obtained from the blood, on the addition of a few drops of nitric acid, threw down a copious yellowish white crystalline precipitate, which in twenty-four hours amounted to one half the mixture. With a view to further investigation, this precipitate was collected on a filter, washed with cold water, and dried. One portion of it was submitted to heat in a platina ladle, by which it was converted, first, into a coal-like mass, and was afterwards dissipated, leaving scarcely any residue: another portion, mixed with liquor potassa, was submitted to a gentle heat, without developing any traces of ammonia. A third portion, greater in quantity, was mixed with water and carbonate of barytá, and the mixture decomposed by the addition of an excess of concentrated alcohol. The filtered solution, which did not become turbid on the addition of sulphuric acid, threw down, on spontaneous evaporation, long, colourless, needle-like crystals of urea, amounting to about two milligrammes. Their identity was proved by their solubility in water and alcohol, their volatilization by heat, and their precipitation by nitric, oxalic and tartaric acid.

The fluid obtained from the matter ejected by vomiting also afforded a precipitate, on the addition of nitric acid, which resembled the nitrate of urea, but was so small in quantity as to render it impossible to determine its character with certainty.

The fluid obtained from the bile only furnished a brownish coloured, flocculent precipitate, destitute of all traces of nitrate of urea; and that from the small intestines and the fæces, which was of a brownish colour, afforded a precipitate on the addition of nitric acid.

The result of these experiments demonstrates the presence of urea in the blood of the animal, and renders the existence of it in the fluids thrown up by vomiting probable; but on the other hand, no traces of it could be found in either the fæces or the bile. The reason why we obtained less urea from the blood than Prevost and Dumas, may be explained partly by the small size of the dog, in consequence of which only an inconsiderable quantity of blood was collected in the large vessels after death; and partly by the animal having survived only until the second day after the operation.* But the fact that urea was generated in the blood, and shortly after the interruption of the urinary secretion, is not without importance.

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* Vauquelin and Ségalas detected no urea in the blood of a dog which died forty-eight hours after the extirpation of the kidneys; but in another one, which survived the operation sixty hours, its presence was discovered. They explain this difference by the circumstance that in the first, the fluid was evaporated over a water-bath, while in the second, it was accomplished in a vacuum by the agency of sulphuric acid. But inasmuch as an aqueous solution

Unsuccessful Experiments to discover the presence of Urea and Sugar of Milk in the Healthy Blood.

The foregoing experiments, confirmatory of those of Prevost and Dumas, are favourable to the hypothesis, that the secretory organs not only possess the faculty of forming new organic compounds from the elements of the blood, but likewise, that these exist already formed in various proportions in that fluid. The results however may be explained otherwise, if the improbable conjecture be admitted, that after the extirpation of the kidneys, the other secretory organs possess the faculty of taking on a vicarious office, in virtue of which they become able to secrete urea, a portion of which may be again introduced into the blood by absorption. If it can be shewn that urea, and most of the products which we are accustomed to regard as the result of the process of secretion are formed in the blood, the above hypothesis will appear the more probable; and it should be remarked, that the circumstance that some of these materials cannot be discovered, does not militate against the correctness of the inference, since it is probable, that in many cases, as happened in the experiments of Vauquelin and Ségalas relative to urea, those which exist in the blood sent to the secretory organs, are separated so fully and promptly, as to render it less easy to detect the very small quantity that would remain in the entire mass of blood; more especially, as it is more difficult to separate organic than inorganic matter. As, moreover, several substances are found in the blood, such as various salts, osmazome, caseum, cholesterine, tallow, oil, and sebic acid, which are considered products of secretion, it is reasonable to suppose that other materials of an important character which exist in the secretions, may also be found in that fluid. Under this impression the following experiments were instituted, with the object of detecting urea and sugar of milk in the healthy blood.

Our object was in the first place to determine the practicability of detecting a small quantity of urea previously mixed with the blood. With this view, a mixture of 50 grammes of ox blood, and 0.2 gramme of urea were evaporated to dryness, and treated as in the foregoing experiments, with acetate of lead and sulphuretted hydrogen. The watery solution obtained, which was colourless, threw down a considerable crystalline precipitate on the addition of nitric acid, and when oxalic acid was added, an equally copious granular precipitate was obtained: they could not, however, be positively identified as composed of nitrate and oxalate of urea. A mixture of blood and urea in the same proportions, evapo-

of urea is not so easily decomposed by a water-bath as is often supposed, and as it did not take place in any instance in which we employed that process, we think it more probable that in the case of the dog which died in forty-eight hours, the urea had not been generated in sufficient quantity in the blood to render its presence manifest.

rated to dryness, dissolved in boiling water, filtered and evaporated to dryness, the product thus dissolved in alcohol, filtered, and again evaporated, and the residue dissolved in a small quantity of water and filtered, afforded the same kind of precipitate on the addition of nitric and oxalic acid.

On the other hand, we evaporated a mixture of 50 grammes of ox blood and 0.5 gramme of sugar of milk to dryness, and washed the product with hot water as long as any thing was taken up. Acetate of lead threw down a turbid precipitate, and from the filtered fluid the lead was separated by the addition of sulphuretted hydrogen. The filtered fluid being evaporated to dryness, the residue was treated with alcohol until all its soluble parts were taken up, and a considerable quantity of sugar of milk was obtained, which existed in form of a white granular powder. We should remark, however, that when the mass obtained by evaporation is exposed so long to the atmosphere as to become moist on account of the acetates it contains, and is then dissolved in alcohol of the strength of 36° R. it will be completely dissolved, leaving no traces of sugar of milk,—an evidence that this material is soluble in alcohol in combination with the moisture which exists in the mass.

Having thus convinced ourselves that 2.500 parts of urea, and 1.100 parts of sugar of milk, can be detected in even a small quantity of blood, we were led to hope, that by using a greater quantity of the latter fluid, these materials might be discovered, even though they exist in a very small proportion. With this object the following experiment was instituted.

Ten pounds of fresh blood, obtained from a milch cow, were evaporated over a water bath, until the fluid was reduced to a dry powder. This was well washed with hot water, and the solution strained through linen and evaporated to dryness. The product was again treated with water, and its insoluble parts thrown down by adding acetate of lead. The filtered fluid was treated with carbonate of ammonia, again filtered and evaporated, dissolved in concentrated alcohol, evaporated, and submitted a second time to alcohol.

This alcoholic solution when evaporated, only furnished a combination of sebic acid and soda; and when the residue was dissolved in water and treated with nitric and oxalic acid, no precipitate of urea was thrown down, but the effect was merely to separate the sebic acid.

The solid product which remained after the separation of the alcohol from the two solutions, and which should have furnished sugar of milk had there been any present, contained especially muriate and acetate of soda. The solubility of both of them in water would render them capable of being so acted upon by the alcohol, as to prevent any sugar of milk which might exist from being precipitated. We therefore added dilute sulphuric acid, and evaporated the fluid from the precipitated sulphate of soda; but as the residue still contained salts of soda, it was repeatedly treated with water, alcohol, and sulphuric acid. The excess of the acid was then removed by baryta water, the excess of the latter by carbonate of ammonia, after which the fluid was filtered, and evaporated to dryness. The product was merely a very small quantity of crystallizable animal matter, soluble in alcohol and water, which did not afford any traces of sugar of milk on the addition of nitric acid.

It may be inferred from these experiments, that the blood of the cow contains neither urea nor sugar of milk, or at least that they exist in such small quantity, that their presence is concealed by the great quantity of other materials.—*Tiedemann und Treviranus Zeitschrift für, Physiologie, bd. v. heft.* 1.

ARTICLE II.

Lecture on Hæmorrhoids. By Sir B. C. Brodie, Bart.

(Concluded from page 192.)

Hæmorrhoids—operation.—Different methods have been proposed for destroying hæmorrhoids by operation: some surgeons have practised and recommended that by excision, while others have preferred the removal of them by ligature; others speak of the ill consequences attendant on each of these modes of operating.

It appears to me that the question respecting the operation and the proper rule of treatment has been very distinctly and correctly laid by Sir Everard Home, in a paper on that subject, at the end of his work on Ulcers of the Legs. He states the matter thus:—That external piles which are covered by the skin ought not to be removed by ligature; if they are removed at all, it ought to be by excision. On the other hand, internal piles which are covered by the mucous membranes, ought, *for the most part*, to be removed by ligature. In short, the ligature is applicable generally in cases of internal piles, and excision to those which are external. The grounds of this distinction are as follow: The application of a ligature to external piles gives the patient extraordinary pain at the time, and afterwards excites much inflammation, swelling, and disturbance of the general system; whereas, if they be removed by excision, these ill consequences are avoided. After the excision of *external* piles, there can be no danger of hæmorrhage, because the parts are entirely within your reach, so that the bleeding vessels can be easily secured; and though some little inflammation may supervene on the operation, yet it is not sufficient to be of any real consequence. If, however, you remove large *internal* piles by excision, there may be copious and even dangerous hæmorrhage, since the parts which bleed are out of reach, above the sphincter muscle, where you cannot expose the cut surface, so as to be enabled to take up the bleeding vessel. On the other hand, the application of a ligature to internal piles in general causes but little pain, and only a slight degree of inflammation follows, for the mucous membrane has nothing like the sensibility of the skin, and does not resent an injury in the same manner. With respect to internal piles, then, there is no objection to the use of the ligature, while there is the greatest objection to their simple excision. This is the doctrine which I was taught by Sir Everard Home in this hospital when I was a student. But I met with a copy of Mr. Cline's Lectures on Surgery, in which he stated that he removed internal piles by excision; and this observation was added—"a timid surgeon removes them by ligature." Knowing Mr. Cline to be a very cautious practitioner, I thought that in what he recommended there could be no kind of danger, and for some time, therefore, I was led to follow his suggestion. In the first one or two cases I found no inconvenience to arise from my altered practice; but then a case occurred in which the patient lost a great deal of blood; in another case, the hæmorrhage was so great that the patient nearly died; and then a third case occurred, in which also the patient lost an enormous quantity of blood—so much, that I now only wonder that he did not actually die. Since then I have never removed large internal piles except by ligature.

The removal of external piles is very seldom necessary: they are generally complicated with internal piles; and if you cure the former, the latter, which are a continuation of the same veins, will be cured also. However, there are cases in which it is right to remove external piles by incision. For example, where they are enlarged and inflamed, so that it will take a great deal of time to subdue the inflammation, and the patient is all the while suffering pain, he may be relieved at once by two or three snips of curved knife-edged scissors. Or if an abscess has formed in an external pile, which bursts, discharges, and closes at the orifice, then bursts and discharges again, it may be worth while to cut off the pile and the abscess with it.

The excision of external piles is easily accomplished by means of the scissors which I have just mentioned. You take hold of the pile with a double tenaculum, elevate it a little from the base, and then snip it off. If there be a little artery bleeding considerably, you take up the vessel as you would on any other cut surface.

I have said that internal piles are to be removed principally by ligature. You will observe I do not say they are *never* to be removed otherwise. The fact is, that when internal piles are small, it is not worth while to tie them; and they may under these circumstances be excised with perfect safety. Such a case as this will frequently occur:—a patient complains of symptoms of internal piles; he has always pain about the anus, and a discharge of mucus. You examine the parts, and find a pile, not larger than the end of your little finger, covered with the mucous membrane of the bowel, protruded, and, as it were, sticking in the orifice of the anus. You take hold of it with a double tenaculum, apply the scissors to the base, and no kind of inconvenience follows the operation. But whenever there are large internal piles, which protrude either constantly or occasionally, you ought not to venture to remove them except by ligature. In performing the operation by ligature, the first thing is to get the piles well protruded. For this purpose, you may make the patient sit over a pan of hot water, which will relax the sphincter muscle, and at the same time cause the veins of the rectum to become filled with blood. If this be not sufficient, let the patient have a pint or two of warm water thrown up as an enema; and when that comes away, the piles will probably descend with it. The piles having been by these means brought properly into view, you may let the patient lean over a table, or lie on one side in bed, with his knees drawn up, the nates being held apart by an assistant. Each separate pile must be separately tied. If the pile be of a very small size, you may just take it up with a double tenaculum, draw it out, and tie a ligature round its base. But if the piles be of a large size, you should proceed in the following manner: have a large curved needle, armed with a strong double ligature; pass the needle, carrying the ligature after it, through the base of one of the piles, and then cut off the needle. The double ligature is now divided into two single ligatures, which are tied round the base of the pile, one on one side and the other on the other side, with a single knot. Treat all the piles in this manner; and as the ligatures are applied, let your assistant draw the several threads out of your way, holding them over the nates. When each of the piles is secured in this manner, (and there may be two, three, four, or five, to be thus treated), you then proceed to another step of the operation: cut off the convex portion of each pile, so as to make an opening into the cavity of the convoluted vein which forms it. Thus you take off the tension produced in the pile by the blood which it contains, and are enabled to draw the ligature tighter than before. It should be drawn as tight as possible. As the ligature is tighter, so there is less pain afterwards; so also the slough separates sooner, and the more expeditious is the cure. You have now only to complete the double knot upon each of the ligatures, and cut off the threads close to the knots, returning the piles, ligatures and all, into the rectum. It is a very simple operation; and except when the piles are in a state of inflammation, attended with but little suffering. You are to take care, in performing it, to keep all the ligatures clear of the external parts; for if they include any of the skin, the patient suffers a great deal of pain, and much inflammation will supervene. I generally give a pretty active dose of rhubarb the day before the operation, so that the bowels may be well emptied, and that the patient may afford to go for two or three days after the operation without having an evacuation.

It very seldom happens that inflammation or fever follows the use of the ligature, and the threads generally separate at the end of a week,—not that I look for their separation, for it is of no consequence whether they come away a day sooner or a day later. I never trouble my head about the ligatures after they have been once applied, but if you choose to look for them, this is the time at which you will find that they usually come away.

But the patient must now take measures to prevent a recurrence of the disease. For this purpose, when there has been time for the sores left after the separation of the ligatures to have healed, I recommend him to take some lenitive electuary and sulphur every night, so as to keep the bowels gently open, and to use a lavement of cold water every morning.

I conceive that this is not only one of the most effectual, but one of the safest operations in surgery. I should think I must have performed, or seen it performed, between 200 and 300 times. I saw one patient who died after the operation, in consequence of diffuse inflammation of the cellular membrane running up on the outside the gut as high as the mesentery; but that was a patient whose constitution was broken down by long continued hemorrhage, and in whom any slight accident might have produced equally bad consequences. I saw another patient, who, a week after the operation, and having been quite well in the interval, had an attack of pain in the abdomen, and shivering attended with fever, and died. I was not allowed to examine the body after death. I could not make out at the time that the symptoms had any connection with the operation, nor do I believe that they had; but I mention the case because, as the body was not examined after death, I have no certain knowledge on the subject.

With the exception of these two cases, out of all the 200 or 300 patients whom I have known treated in this manner, I never knew any ill consequences to arise. I contend, then, that the operation is as safe as any operation can be expected to be. You are not to suppose that even the slightest operations in surgery are absolutely, in all cases, free from every particle of danger, any more than the slightest accident. I haave known two patients die after the extraction of a tooth, and I have known several die in consequence of venesection at the arm, or an accidental prick of a finger. The chance of danger from this operation at any rate is so trifling that you need not calculate upon it. If you were to calculate upon so small a chance as this, you would scarcely be able to do any thing in the common affairs of life.

Supposing a person has piles which come down when he walks, which are constantly teasing him in this way, and yet he cannot make up his mind to submit to an operation, or that there are any circumstances that lead you to think it better not to have recourse to it, still you may do something for his relief. There is a machine made for the purpose of supporting the bowel, and preventing the protrusion of the piles. It is sold under the name of a truss for the *prolapsus ani*, the makers of it confounding, as I have told you is often done even by surgeons, internal piles with prolapsus of the rectum. It is made with a spring which fits round the pelvis, and so far resembles a spring truss for a hernia; but at the back part, fixed at right angles to the circular spring, there is another spring which descends behind the sacrum, taking the course of that bone, and terminating below in a pad, which rests on the anus. The elasticity of the spring supports the pad, keeps it pressed against the anus, and prevents the protrusion of the internal piles.

[*Lond. Med. Gazette, March*, 1835.

REVIEW.

Admonere voluimus, non mordere.——
Sunt bona; sunt quædam mediocria, sunt mala plura.

Ueber den Zustand der Heilkunde und ueber die Volkskrankheiten in der Europàischen und Asiatischen Turkey; ein Beitrag zur Kultur, und Sittengeschichte von FRIEDR. WILHELM OPPENHEIM, Doctor der Medicine und Chirurgie, kaiserisch russischen Collegianassessor und Ritter, praktischen Arzte und Wundartze in Hamburg, pp. 143. Hamburg, 1833, bei Perthes und Besser.

State of Medical Science in Turkey, with observations on the Epidemic Diseases of that country. By FREDR. WILHELM OPPENHEIM, M.D. &c.

INHABITING a country endeared to us by all our classical associations, professing a religion entirely at variance with our own, and exhibiting, consequently, a state of society characterized by many striking peculiarities, the Turkish nation presents many traits which are peculiarly interesting to the philosophical inquirer. The state of society among its inhabitants, their progress in the march of civilization, their political history, their attainments in the arts and sciences,—all constitute subjects highly deserving serious consideration and reflection; and to the medical philosopher especially, it will be interesting to know something of their progress in the healing art, in order that he may be enabled to judge how far the science of medicine is influenced by the peculiarities of their religious, moral, and political systems. This information Dr. Oppenheim has attempted to communicate in the work before us, and having possessed ample opportunities of becoming informed on the subject, afforded by a sojourn of three years in the different provinces of European and Asiatic Turkey, he has collected together much interesting intelligence pertaining to the state of medical science in that country, some of which we shall endeavour to select for the edification of our readers.

The Hippocrates of Turkish medicine was an Arabian dervise, of the name of Lockman, who lived in the seventh century, and is said to have derived his appointment to the god-like office, from the great prophet himself. He had an understanding with that great man, that he should transmit to posterity no written record; but Arabic legends abound with the most glowing recitals of his success. He is represented to have been particularly skilled in pharmacy. Whenever a patient entered his office, a box containing the medicine necessary to cure his disease, immediately opened itself to furnish the healing balm; and when walking through the fields, the flowers and plants revealed to him their medicinal properties.

Lockman led a wandering life, and was in the habit of proclaiming his miraculous cures in the high places, especially at Damascus and Mecca. He also instructed many of his brethren of the order in the mysteries of his calling, and from this source all the Mahomedan physicians of the present day derive their professional heritage. The science of these men, who are entirely uninstructed except in a knowledge of the virtues and medicinal application of a few plants, is truly ridiculous: their chief reliance in the cure of disease is on the mysteries of divination and astrology; and the principal aids called into requisition by them are the powers of necromancy, talismans, and cabalistic figures. In doubtful cases, all the evil spirits that human superstition has been able to imagine, to inspire children with the fear of death, are invoked: the patient is at one time exorcised as possessed by an evil spirit; at another as under the vengeance of God: long prayers are offered up, and the rosary is counted fifty times. Short extracts from the Koran are sewed up and swallowed by the patient, or these sentences are written upon a board, and afterwards washed off, the patient being required to drink the water used for that purpose.

Amulets are especially confided in by most of the inhabitants of the east,—Turks, Christians, and Jews, both as a means of protecting them against evil, and removing it when present. Few persons are to be found without them about their person. They generally consist of extracts from the Koran or Bible, or hieroglyphics, written upon small pieces of paper, which are folded of a triangular shape. These are sewed in a piece of cloth of the same figure, attached to a string, by which they are suspended from the neck, and in immediate contact with the body; or they are worn inside of the turban so as to be in contact with the head. They are used not only as a protection against disease, but also against ball and sword; and when they consist of a relic from the grave, &c. they are sometimes purchased at an enormous price. The following circumstance mentioned by Dr. Oppenheim, will shew the value attached to these imaginary safeguards against accident.

"After the catastrophe of Wehli-Bey at Monastir, a nusko (*amulet*) was found about his person, which he had purchased for the sum of 60,000 piastres, as a protection in war. The seliktar (sword-bearer) of the grand vizier had it newly consecrated by a dervise, appended it to his own person, and considered himself peculiarly fortunate in the possession of the prize. I remarked to him its failure to protect its former owner against the melancholy fate that had befallen him, as a circumstance calculated to inspire a doubt of its talismanic efficacy. 'Not in the least,' replied he; 'nothing short of the holy will of the sultan could transcend the power of this nusko, and only through him can any thing happen to its owner.' In the battle-field, before the fire and ball of the enemy, and the dagger of the assassin, its virtues are infallible." p. 4.

The lover, also, resorts to these amulets as a substitute for the love-draught, and the suitor who is thwarted in the object of his affections, feels secure, after swallowing one of these baubles, of surmounting all the obstacles which oppose his wishes. They are also constantly used for the treatment of intermittent fevers, affections of the eye, and surgical diseases.

The evil-eye, the occhio cattivo of the Italians, is greatly feared by all classes of people in Turkey, who seek by amulets to protect themselves against its influence. They imagine that the evil-eye brings happiness instead of misfortune, if the sacred words "*Mash-Allah*" be written in bold characters upon the front of the house, where they can be seen by the evil genius. The horse carries his rider unharmed through the excited mob, if he has a small blue tassel suspended to the breast by a string. The anxious mother attaches similar amulets to the head and breast of her children, when she sends them out, in order that, if they should be menaced with danger, these symbols may attract the first glance of the stranger; but oftentimes she does not think this precaution sufficient, but spits in the face of her children, in order that they may elude the cupidity of those who are destitute of offspring, or the envy of less fortunate parents.

The Turkish physicians also believe implicitly in white and black, or lucky and unlucky days; cures or operations are never attempted on the latter. Tuesday is by them considered the most unlucky day of the week, and Friday the most propitious; because it was on this day that Mahomet, being pursued, effected his memorable flight from Mecca to Medina. Each individual is supposed, moreover, to have his particular black and white days allotted to him by the star of his destiny.

This extreme ignorance and absence of all instruction on the part of the Turkish physicians, together with their consequent want of skill, occasions the advice and assistance of foreigners, especially Europeans, whether physicians or not, to be sought after by all classes of inhabitants with great avidity. Even those who are totally ignorant of medical science, provided they be Europeans, or, as they are called, Franks, are thought to be skilled in the healing art. Whoever, therefore, appears in any part of the Turkish empire in European costume, if he only wear a hat instead of a turban, is *ea ipso*, regarded by the inhabitants as a physician, and is distinguished by the superlative appellation of *Hekim Baschi.* Whether he will or not, he must take upon himself the duties of his imputed profession, and hundreds crowd around him, presenting their arms that he may feel the pulse, in which single means of diagnosis, according to their notions, are centred the whole mysteries of the healing art. Others, content with their own diagnosis, and judging themselves of the proper indications, only appeal to him for the remedies; requiring of him an emetic or cathartic; a medicine to generate or expel wind, &c. or only directions how it should be admininistered,—whether in sherbet, electuary, (*madjuhn,*) pill, (*happ,*) or drops, (*damla.*)

When the doors are thus thrown open to the cupidity of charlatans, the treatment of diseases must necessarily fall into the hands of the ignorant and uninstructed, who will not fail to turn the credulity of the people to their own profit. Even in the capital, where there are properly instructed physicians, as well foreigners as Greeks, who have received, in different parts of Europe, a proper scientific education, there are a number of strangers engaged in the practice of medicine, who, in their own country, followed very different pursuits. There are, besides, in the capital, as well as throughout the whole empire, immense numbers of all nations, ranks, and conditions,—Greeks, Jews, Armenians, the priesthood of all denominations, gypsies, barbers, and old women, who take on themselves the cure of diseases.

But in this degraded state of the medical profession, both the art and he who exercises it, are held in the highest estimation. The physician is considered as a kind of holy personage, and his title, "*Hekim,*" affords him certain protection against all political and religious persecution. This was strikingly exemplified during the last Russo-Turkish war, when it often happened, that the uplifted hand of the rude, fanatical, avaricious Turk, about to strike off the head or ears of his prisoner, was instantly arrested by the exclamation—"*Hekim,*" and the life of his victim was by this talismanic word, rescued from destruction.

While the different classes of medical practitioners in Turkey are nearly allied as regards their ignorance and rashness, they differ widely in their modes of practice, and their comparative standing in the estimation of the people. According to Dr. Oppenheim, the Franks stand the highest;—a pre-eminence which he thinks is not altogether attributable to their superior knowledge and skill, but which they owe in part to their political relations; the Turks being more disposed to place confidence in those who are subjects of another government, and who, consequently, can exercise no power over them, than in the Rahja, (native-born christians, subjects of the Porte,) whom they regard as their inferiors, and not to be trusted. They, besides, have a high opinion of the learning and judgment of the Franks; hence, *Alkely Frankestan* (the shrewdness of the country of the Franks) is a standing motto with them.

Amongst the number of quacks that infest the whole empire, there are some well-instructed physicians, but the number is comparatively small; and where the people are so incapable of discriminating between the ignorant pretender and the man of science, many must of course fall a prey to the cupidity and rashness of base charlatans. Dr. Oppenheim remarks, that among the surgeons of the Turkish army, he met with a Maltese, who had been a letter-carrier at Corfu; the master of the vessel of Ragusa, who had lost his ship, and many others of a similar character.

A brigadier of the Piedmontese army, who gave instructions in the French language in the families of the several consuls of Adrianople, desirous of becoming a physician at once, obtained from Dr. Oppenheim sixteen medical formulæ, and thus equipped, obtained the appointment of physician to the Aga of Jambul. At Smyrna, Dr. O. was called in consultation with a physician who had been a drum-major in Napoleon's army.

In cabalism and intrigue, this class is only surpassed by the Greek pseudo-doctors, with which the whole country literally swarms. They are divided into three classes: 1st, such as have pursued their studies for a short period in some part of Europe, especially in Italy; 2d, those who inherited their medical knowledge from their fathers; 3d, and finally, such persons as have served for some time in the capacity of assistant to some pseudo-doctor. Of all these, the most vain, ignorant, and rash pretenders are those who compose the first class. They are mostly Greeks from the Ionian Isles, of whom the Faculty of Pavia affirmed, "*examinamus asinum, et mittimus in Asiam.*" The elder of these are said to be staunch Brunonians, and rely chiefly upon Peruvian bark, camphor, and valerian; while the younger are followers of Rasori and Broussais, whose leading remedies are antimony, leeches, and venesection. Most of them obtain passports from some of the foreign powers, while absent in Europe, and assume the Frankish costume, in order that when they return, by putting themselves under the protection of the consuls, they may escape being considered subjects of the Porte.

The hereditary class of doctors,—the true Asclepiadæ, come mostly from the Sagor district, in the Paschalick of Janina, Lower Albania. The greater proportion of the inhabitants of this rude and uncultivated country, without any previous education, and with no other knowledge than that inherited by their birth, betake themselves to the practice of medicine, and issue forth in swarms over Albania, Macedonia, Rumelia, and the whole Turkish empire. They carry with them many pupils or assistants, who, in the course of a few years, become masters in their turn. These constitute the third class. Both these classes retain their national costume, and are guilty of the meanest and most degrading conduct in the practice of their art.

Of like consideration and character are the Jewish physicians, who generally keep apothecary shops or bazaars, in which they keep for sale, besides the ordinary medicines and cosmetics, soaps, oil of roses, and every variety of drugs and paints. The poorest of them, as well as the gypsies, sally forth with a knapsack on their backs, traversing the bazaars, yelling as they go the perpetual cry of "*ei Hekim*," (Καλὸ ἰατρὸς.) They wander from place to place, feeling the pulse; then pronouncing the words "*bilirim senin hastalik*," (I know thy disease;) they, for a couple of paras, (less than half a cent,) and without asking any questions, furnish the patient with a pill or a powder, which he swallows on the spot, while the physician re-adjusts his pack and goes his way.

But while the whole country is overrun by unprincipled charlatans such as these, there are some well educated, high-minded, and honourable physicians. Dr. Oppenheim gives the names of several such, of whom he speaks in very respectful terms. Several of them were graduates of the most respectable universities of Germany and Italy, and had enjoyed all the advantages of a profound medical education, under the most distinguished professors of those countries.

By no other means can the physician raise himself so high in the estimation of a Turk, as by forming a prompt diagnosis of all diseases, simply by feeling the pulse. He must not only determine by this the nature of the disease, but must know whether the patient has slept; whether he has eaten any thing, and what kind of food; whether his bowels have been open, &c. Every question the Turk has to answer is considered a task, and with every new interrogatory, his distrust of the physician is increased. He must likewise pronounce at his first visit, from feeling the pulse, at what minute death will take place, or if the patient will be relieved of his disease by a favourable crisis; and not only by the ignorant and vulgar, but even by the most respectable Turk, is the tact of the physician in pulse feeling regarded as the only criterion of his skill. Dr. Oppenheim mentions an instance corroborative of this declaration. After the close of the Russo-Turkish war, the governor of Adrianople, Halihsh Pascha, paid a visit to the Russian general, Paulin. There were two other physicians present besides himself. After they had been announced to the Pascha, he extended his arm to each of them and requested them to feel his pulse, then turning to the general, he announced that one of them was a better physician than the other,—a conclusion which he formed from the manner in which they felt the pulse, and immediately entered into a treaty with that individual, to engage him to enter his service.

Our author remarks, that it often happened to him, in presenting his passport to the officer of some of the pest lazaretto posts, that as soon as the officer had heard the words "*Hekim Baschi*," he ordered out all the guard, and would not permit him to pass, until he had felt all their pulses, and declared them to be in excellent health. The shrewd Greek physicians, however, sometimes employ other means than the pulse to obtain a knowledge of the condition of their patients. They elicit all necessary information from the nurse or attendants previous to the visit, and the credulous patient has so much confidence in his physician, that he gives him credit for divining from the pulse alone, what he had already learnt from a different source.

Having ascertained, by feeling the pulse, the nature of the disease, and the period of recovery, a Musselman immediately demands the remedy, and makes inquiry relative to its operation. When the medicine does not produce a crisis attended with a sensible evacuation, it is esteemed of no value; and the Turks demand large doses, always preferring those articles which are administered in the fluid form (scherbet). To emetics they are averse, and they cannot be persuaded to submit to the employment of clysters. Nor will they observe any dietetic regulations, except during the month of May, when they undergo a course of *spring-physic.* At this period, they take cathartic medicines, and drink during three or four weeks the fresh expressed juice gramin. vel taraxici, &c. or milk, but above all, vipers' broth, which the Turkish physicians regard as the very best remedy for purifying the blood. These vipers exist in great abundance in the neighbourbood of Adrianople, whence great quantities are sent to Constantinople, and other parts of the empire. They are preserved in small boxes or vessels, from an aperture in which they are cautiously withdrawn when wanted. The head is then cut off, the skin removed, and the body cut into small fragments, to which a certain quantity of water is added. This is boiled down one-half, and from two to four pounds of this broth is drunk daily. At this season of the year, moreover, many Turks will submit to the operation of venesection, which at all other times they refuse, regarding it as improper or injurious.

Turkish Baths.—The best and most effectual of all external therapeutical applications with the people of the east, is the bath (*Hannan*). The long continued friction of the limbs, the flexions, extensions, stretchings, and kneadings, to which the individual is exposed in the bath, exercise a very beneficial influence on the system; and such is the address of those who conduct these bathing manipulations, (*Tellak*,) that with extreme rapidity, they luxate the limbs, as it were, and in an instant restore their proper relations. These baths are especially useful in chronic cutaneous eruptions, rheumatism, and gout.

The public baths, of which there are a great number in every town, are elegant buildings of free-stone, constructed in good taste, and surmounted by a cupola. They consist of numerous spacious apartments, handsomely flagged with fine marble, and are entered by a lofty and roomy hall, lighted from the roof, in the centre of which is a large marble basin of water, perpetually agitated by the jets of a refreshing fountain. Ranged around are lofty and roomy benches, furnished with matresses and ottomans. Here the bather undresses, binds a silken girdle around his loins, and is supplied with a pair of wooden sandals, preparatory to being conducted to the bath. He then passes to the first chamber, which is only moderately warm, and is designed to prepare the bather for the more elevated temperature of 30° R. of the inner apartment, which has a vaulted ceiling, and receives its light through the cupola. In the centre of the second chamber is a large quadrangular marble platform of considerable height, upon which the bather is stretched at full length, and has every part of his body thoroughly submitted to the kneading and extending process by the attendant. After this operation is completed, he is conducted into an adjoining alcove, which also has a vaulted ceiling, and, besides, has its flagged marble floor warmed from beneath. Here the proper bathing process first commences. Warm water is conveyed by pipes in the wall into a large marble basin, and the bather is seated naked on the warm floor, while the attendant proceeds with a soft texture, composed of horse or camel hair, immersed from time to time in the warm water, and imbued with aromatic soap, to make frictions upon every part of the body, after which the process of ablution is completed, by effusions of warm water. The bather is then thoroughly dried, and enveloped in a cotton robe previously warmed, and returns to the spacious hall of entrance, where he reclines upon the benches for half an hour, sips his coffee or sherbet, whiffs his pipe, and then wends his way homeward. The expense of such a bath is so inconsiderable, that even the common Turks are enabled to enjoy the luxury—which they avail themselves of very frequently.

Separate bathing establishments for the two sexes are every where to be found. The female bath constitutes a kind of rendezvous for friends and acquaintances, and where new intimacies may be formed. Here the matron conveys her daughters to display their attractions to other mothers; and the future bridegroom, in this way, learns through his mother the charms of his betrothed bride. As the Turks are not exempt from those impulses which warm the youth of both sexes, the bath not unfrequently becomes a convenient place for the exercise of their prostitutions.

The members of the medical profession in Turkey receive a very inadequate compensation for their services. The Turk, while suffering from disease, is lavish in his promises, but performs but few of them when convalescent. He is seldom willing to pay more than the mere price of the medicines employed, and as most physicians dispense their own prescriptions, they take care to regulate the price of them accordingly. Should the patient die, the medical attendant need scarce expect any thing for his services, and if he recover, the obligation is immediately forgotten. This, however, is mostly the case with the native physicians only: the Franks are generally allowed a decent compensation. In many cases a stipulated sum is agreed upon beforehand, which is called "Ajakderesie," which is handed to the physician by one of the servants of the sick on his leaving the house. This is generally a half (*jirmilik*) or an entire mamudié, a gold coin of the value of from twenty to forty Turkish piastres, (from one and a half to three dollars;) out of this, however, the servant often retains a "bakschisch" (*drink money*) to the amount of a "barbut," (about four cents.) Should this fee not be paid at the first or second visit, the physician absents himself until it is forthcoming, and he is invited to repeat his visit. In many cases, nevertheless, the fee is not paid until the end of the cure. This is more particularly the custom in the harems.

In important cases, especially such as demand energetic treatment, or require a surgical operation, the physician enters into a contract with his patient, which is ratified before the cadi, and pledges himself to cure the disease within a stipulated time, for which he is to receive, when the treatment is terminated, the sum agreed upon. In these contracts, however, the Greek generally outwits the Turk; for instead of stipulating for the payment of his fee after a cure shall have been effected, he requires one-third or one-half in advance, well knowing that the case may terminate fatally, and that, in that event, he will be obliged to give an acquittance for the other half. The physician is most certain of his compensation when the contract is made in legal form, and he pays the cadi ten per cent. on the amount, which inclines him to favour his interests, except when the patient, by paying him more than the legal ten per cent. succeeds in changing the balance of the scales of justice.

The compensation for medical attendance is not always rendered in money, but sometimes in provisions, slaves, horses, arms, &c. Dr. Oppenheim cured the Aga of Adrianople of a severe attack of fever, which was followed by tedious convalescence. He inquired of the doctor when he had recovered, if he was a married man, and being informed in the negative, offered him, by way of compensation, two beautiful Greek female slaves. When informed that it was contrary to the laws of the army for an individual to carry a female with him, he offered a boy, and could not conceive it possible that his very generous proposal would be rejected, or that the doctor would not thank him for his liberality. In the town of Balukassar, in Asia Minor, Dr. O. had occasion to cure the Aga of a nasal polypus, who was very thankful, but declared he had no money. As a substitute for this, the doctor received his reward in a stallion, and two camels laden with cheese made of sheep and goat's milk.

When a surgical operation is to be performed, it is necessary to make a previous arrangement with the judge of the place, not so much with the view of securing the payment of the fee, as to obtain a security against outrage, a demand for blood-money, or even the vengeance of the relatives in the event of a fatal termination. In such cases, either the patient or one of his connections goes with the surgeon to the cadi, or in large towns, to the mufti, and obtains from him a *fetwa*, which in case of an unfortunate issue, screens him from blame, and secures to him the payment of his fee. The compensation for surgical operations is generally inconsiderable,—that for lithotomy being under ordinary circumstances not more than one or two hundred piastres; and if the case should terminate fatally, it is the common custom to pay only one-half. It happened to Dr. Oppenheim, on one occasion, to have the demand for blood-money made against him. After the engagement at Monastir, which happened on the 14th August, 1830, he amputated the limb of a deli, who died. Some time afterwards, he was sent by the grand vizier to Pristina, to visit the troops, when meeting with the cadi, that personage, after the customary compliments had been exchanged, demanded of him, "are you physician to the grand vizier? Did you operate on the deli Soliman-Agi—and is he not dead?" On receiving a reply in the affirmative, he continued: "here you behold his father, who demands of you blood-money: you have spilt his blood, and must make the proper expiation." The doctor, familiar with the customs of the people, was nothing intimidated, but replied sternly, that he would inform the pascha of the circumstance, which effectually put both the complainant and the cadi to rights.

When the physician is so unfortunate as to lose a patient of an internal disease, who occupies a high political or lucrative station, he runs the risk of paying the forfeit of his own life, since the relatives, indignant at being deprived by his death of their emoluments, not unfrequently seek to wreak their vengeance upon him. In other cases, they are easily reconciled by the belief, that the fates have so designed it, and as the deceased is transferred to Paradise, they do not regard death as a calamity.

As in case of the death of an officer of the state, the whole of his wealth is seized upon for the public treasury, the relatives of such persons not unfrequently endeavour to keep their death a secret, until they can secure as much of the spoils as possible, or until one of the relatives endeavours, through an agent at Constantinople, to bribe the Divan to endow him with the office of the deceased, and the possession of his treasure. A curious instance of this species of management was communicated to Dr. Oppenheim by the chief physician of the grand vizier. The father of the present pascha of Uskuf had been sick about six years, when the physician, beholding him in the last agonies of death, thought proper to apprize his son of his situation, who replied that he hoped that he might, by the will of God, be yet allowed to survive many years, and asked of the physician permission to have him removed into a retired wing of the seraglio, where no one was allowed to approach him but a few old and confidential domestics. He expired on the evening of the same day, and was secretly buried by his son under the floor of the apartment, who succeeded in concealing his death for the space of four years, during which time he carried on the duties of his father's official situation in the name of the deceased, which he affixed to all the public documents. In the meantime, physicians were brought from Constantinople, and all parts of the empire, to prescribe for the dead pascha, whom, however, they were not allowed to see, because of an alleged objection on his part, to be seen by a physician, or to take medicine. These professional visiters were always dismissed with handsome presents, and the son having, finally, by means of liberal bribes, succeeded in purchasing the favour of the court, promulgated the death of his father, and immediately obtained possession of his office, and retained all his wealth.

Before Dr. Oppenheim had become thoroughly acquainted with the customs of the Turks, he informs us that he was a little disquieted by receiving a message from Abduraman, pascha of Kalkendehl, to visit some patients in his harem. He was received by the pascha with all the marks of distinction which the better order of Turks are in the habit of extending to the Frankish physicians when they stand in need of their services. After complimenting the doctor, and eulogising the wisdom of the Franks in general, he declared that his whole harem was sick, but that he was convinced the doctor would be able to restore his three wives to health. He was first conducted to a female, aged about twenty-four years, whom he found affected with a catarrhal fever, of which he predicted she would be well in a few days. The second patient was a female, of about twenty-one, affected with a scrofulous ophthalmia, and a chronic herpetic eruption. The prognosis was here more unfavourable, yet he did not despair of success. In the third harem, he found a female, aged about thirty, labouring under general dropsy, and besides in the last stage of pregnancy. An ineffectual attempt had been made three months before, as he afterwards learned, to produce abortion, by active emenagogue remedies, and she had besides been affected for a year with a badly managed intermittent fever. This circumstance created a suspicion of chronic visceral obstructions, which, however, could not be determined, as he was not allowed to examine the abdomen. Foreseeing that the death of the mother would probably follow the delivery of the child, the doctor was obliged to pronounce an unfavourable prognosis. It was also more than probable, that under the circumstances, the child would be still-born. All these conclusions were communicated to the pascha, whose only reply was: *Bakallom! Allah Kaerim! Insch Allah!*—which stereotype words mean: "We shall see! God is great! God be merciful!" "Give her," said he, "the best medicines you have—powerful medicines, and she will yet be well." The same reply was invariably made whenever the doctor made any communication to him relative to the patient, and as he manifested a warm interest in her fate, he required of Dr. Oppenheim to feel her pulse four times a day, and to communicate to him the result.

The melancholy day of the accouchment at length arrived; the patient, as had been predicted, was delivered of a dead child, and the doctor, being called two hours afterwards, found her in the agonies of death. The whole harem immediately resounded with the shrieks and lamentations of the female slaves, who tore their hair in the plenitude of their grief. Fearing the rage of the pascha, Dr. Oppenheim was anxious not to be the first bearer of the melancholy intelligence, and on arriving he found that it had already reached him, but was not a little astonished to perceive, that he who had all along manifested the greatest evidences of care and anxiety, was now perfectly tranquil and composed, and ready to greet his entrance with the salutation, "*Allah Kaerim!*" All the principal personages and officers who had heard of the death of the first *Channim*, dropped in successively, each one on entering using the same words of condolence; "*She is dead, thou shalt live.*" Both mother and infant were buried before evening, and not the slightest alteration or derangement in the ordinary affairs of the household could be observed; but all conversed, took their meals, and pursued their ordinary avocations as usual; all had been anxiety for the condition of the patient during her illness, but now she was dead not a syllable was uttered. The same rule of conduct was observed at the harem, when on a subsequent visit the doctor found his two patients convalescent, and having already learned the established words of condolence,—"*She is dead, you shall live*,"—used them towards the two ladies, who seemed well pleased, and assured him that they now hoped to lead a more peaceable life than they had been able to do during the life of the deceased, who as senior dame had been very tyrannical and domineering towards them. Previous to taking his leave, he received from them, in testimony of their thanks and satisfaction, a robe which had been embroidered in the harem, and the Pascha dismissed him with many thanks, and despatched an escort of troops to accompany him to the frontier of his dominions.

The Turks believe that the soul cannot take leave of the body so long as the latter remains above ground; hence they hasten the burial immediately after death, and never defer it even until the next day. This precipitation must sometimes be attended with melancholy consequences; and the evil is the greater, as not only the Turks, but likewise the Jews, Greeks and Armenians follow the same practice in their burials. The body is enveloped in a pall, and put into the ground without coffin. The grave, about two feet deep, is first covered with boards, upon which the earth is heaped, so that a void space of nearly two feet is interposed between the body and the superincumbent sod.

There are no proper apothecary shops in Turkey, except in the large towns, nor would it be practicable to have them generally, as more than a half of the ordinary physicians are unable to write a prescription. Dr. Oppenheim remarks, that medicines are brought from Marseilles, Trieste, and Venice, in considerable quantity, and at Constantinople, Smyrna, and Salonica, can be obtained of a good quality. Those of the vegetable class are generally preferred; but as every one dispenses his own medicines, there is no regularity or system observed in the preparation, &c. Even where apothecary shops exist, they present a heterogeneous assemblage of boxes, bottles, &c. labelled in a kind of compound of Latin, Italian, and Greek; and with the Jewish physicians also in Hebrew. In the total absence of medical police, the sale of poisons is not prohibited, and accidental poisoning is by no means uncommon. The physician who keeps medicines for sale, often disposes of them without any careful regard to the article or the quantity; open boxes, flasks, &c. containing arsenic, salts and sugar, are arranged side by side, and not unfrequently medicines are weighed in scales which had been used previously for weighing poisons, and containing enough of the article to destroy the life of the individual. Sometimes, moreover, serious mistakes are made in the quantity or quality of an article; but happily for the physician, when the patient is thereby thrown into frightful spasms and convulsions, the bystanders run immediately in pursuit of a Turkish iman or dervise, and the christian priest, under the impression that the individual is possessed of an evil spirit, and as they are uncertain whether the demon is Turkish or Greek, they adopt the safe precaution of exacting the exorcisms according to the rites of both the Mahommedan and Christian churches.

Still more commonly is poison administered intentionally, and some of the native born physicians do not hesitate to lend their hands to this horrible crime. According to the religious faith of many Turks, it is not considered a crime to poison an enemy, because you merely anticipate him in an act which he would perform against you on the first convenient opportunity: besides it is believed that if it is not designed by the fates that he shall die in this way, he will by some means elude the fatal operation of the poison. It is melancholy to reflect, that this practice is not confined to the Turkish physicians, who are influenced to the exercise of it by their faith, and that those who profess the Christian religion are likewise guilty of the crime of poisoning. It may indeed be regarded by a high-minded, honourable physician, as a misfortune to be employed in the service of a Turkish personage of consequence, since under such circumstances, he could not refuse to lend a hand in depatching an enemy, except at the risk of his personal safety. Of this Dr. Oppenheim had an exemplification in his own case.

On the occasion of a levee at court, when all the company had retired, the doctor received a sign from the grand vizier to remain. Coffee, pipes, and a chess board were brought, and he was ordered to be seated on the divan. The servants were then directed to withdraw, and "I found myself," says Dr. Oppenheim, "in a spacious hall, in the company of a man, who acknowledged nothing short of unconditional submission to his will, and at whose nod more than a hundred thousand heads had already fallen.

"We had made but a few moves on the board, when the vizier, fixing his eyes on me sternly, exclaimed, 'Hekim-Baschi, I have enemies; you can, and will assist me:' then motioning to me to withdraw, I was obliged to retire without making any reply. I left the house in haste and confusion, as I but too well understood the meaning of the grand vizier, and was fully sensible of my danger, and of the necessity of caution. Two Albanian princes, who were unwilling to trust the chief physician of the grand vizier, were under my care, and they were the persons it was expected I would put out of the way. I still hoped, however, through the avaricious Greek and Armenian banker and paymaster (*seraff*,) and the secretary (*grammatikas*,) to evade the vizier's designs, by means of a handsome bribe. In this manner twelve days passed away. On the morning of the thirteenth, my servant, as usual on rising, brought in my pipe, and a small cup of black coloured coffee with sugar. The latter had a peculiar taste, and excited vomiting. I hastened to the apothecary, with the cup in my hand, who found about two drachms of corrosive sublimate still remaining in the bottom. I took an emetic, swallowed the whites of some eggs, and found myself well."

Satisfied of the source whence this attempt to take his life had emanated, Dr. Oppenheim obtained a passport (*berouldi*) from the grand vizier, and immediately quit the country.

Practice in the Harems.—"Like most other persons," observes Dr. Oppenheim, "I was particularly anxious to witness the beauty of the Circassian and Georgian females, who, in their early youth, are brought to Constantinople, sold as slaves, and distributed throughout the empire, either to serve in the harems, or to bear children for their masters. I was likewise desirous of having an opportunity to witness the policy and internal arrangement of these female colonies. Fortunately my wishes were soon gratified. The favourite wife of Kiaja Bey, agent of the governor of Adrianople, had been sick three days, and the pascha, who had great confidence in me, represented that if employed, I could immediately cure her. I was accordingly put under the guidance of a black eunuch, who conducted me to the harem, which was about a mile distant. We finally arrived at an outer gate, which, on being opened, conducted us into a garden and an airy pavillion, refreshed by a beautiful marble basin of water and a cooling cascade. Here I was treated with pipe and coffee, while my visit was announced. In about a quarter of an hour I was conducted through the garden to a second gate, which was opened by my guide, and I was transferred to the attention of a veiled female, who was overseer or turnkey of the harem. She conducted me through another garden to the proper department of the women, where there were a number of children, both white and black, to be seen peeping out from behind the blinds. The sick chamber was a very handsome apartment, hung with red, and furnished with closing blinds or curtains. Here I found the patient reposing near the divan, bolstered up by pillows and ottomans, and so completely enveloped from head to foot, in a long white robe, that it was impossible to discover any thing either of her age or condition. I was shewn to a seat on the divan near her head, and all the servants were required to withdraw, leaving, besides the patient and myself, only my interpreter, the two children of the patient,—the one aged four, the other five years, and the old female attendant. All the questions put to the patient were answered promptly and without affectation, through the veil which covered her; and when I desired to feel the pulse, two delicate white hands were thrust out. On desiring to examine the tongue, she raised the veil, and exposed to my view the countenance of a beautiful brunette, of about twenty years of age. Like a snail, however, that has ventured its head beyond its shell, she quickly withdrew her countenance, and left me to retire from the chamber, and obtain from the old female attendant any further information I might desire. The latter conducted me back to the *selamlick*,—the anti-chamber of the master of the house, where I was again allowed to enjoy the refreshment of pipe and coffee. Quite pleased with this first visit to a Turkish harem, I was conducted back to Kiaga-Bey, to whose inquiries relative to his wife I was able to return favourable answers. On being questioned relative to her recovery, and the necessity of my paying her another visit, I replied that a second visit would not be necessary, and that if my directions were followed, she would be well in a few days. He intimated by a nod of his head his high satisfaction, and after I had been regaled with the customary honours of the pipe and coffee, he instructed his agent to reward me with a purse of five hundred piastres. My prognosis turned out correctly; the woman was well by the third day, and confidence in my skill was thereby elevated to the highest pitch."

Dr. Oppenheim gives further details of his practice in the harems, and mentions some cases where a cure was not so easily effected,—one at least, in which he thought it prudent to prescribe a sugar powder, and leave the patient to her fate.

"In the course of my sojourn in European and Asiatic Turkey, and in Africa, I had more than a hundred opportunities of visiting the harems, and am satisfied that a physician, who is acquainted with the language, and is conversant with the manners and etiquette of the country, may obtain access to them without much difficulty; especially to the younger and handsomer females, or to those harems which only contain one female. As a general rule, when objections are made to the removal of the veil, it conceals but few attractions. The young and beautiful, on the contrary, take great pleasure in unveiling. The jealousy of the men cannot prevent the visit of the physician, and should it influence him so far as to be present, the cunning of his wife will be the more certain to devise some means to deceive him. Under even the greatest austerity, where all visits are prohibited, she cannot be prevented from enjoying the purification of the bath under particular circumstances; and if she is disposed, she can feign sickness in the bath, and claim the attendance of a physician. I would not have it inferred from this, as some travellers have represented, that the bath is the common rendezvous for the consummation of love intrigues. At Constantinople and other large cities, where the field for *liasons* of this kind is greatest, departures from the path of virtue are as common as with us, but with this difference, that they are less public; while in small towns, and in the country, it is a rare thing for a woman to be guilty of a breach of good morals."

After a physician has visited a patient in the harem, it is his duty to despatch a servant to the house every morning, to inquire of the husband about the health of the noble lady (*channem*) and how she slept. Proper inquiries are made after the physician in return; thanks and compliments are ordered to be conveyed to him; and at the same time a request is sent that he will repeat his visit at a specified hour, either on that day or the next. But when the wife is not sick, to inquire after her health, or to offer her any salutations, is the greatest offence that can be offered a Turk. These ceremonies are finally terminated by a present from the harem, of a silken robe, a pair of silk pantalettes, an embroidered girdle and pocket handkerchief, and a pair of knit stockings. The convalescent patient designs these as a testimonial of her gratitude to the physician for her cure; and the fee for attendance is afterwards paid by the husband.

We have selected these details almost literally from Dr. Oppenheim's work, partly with the view of shewing the state of medical science in Turkey, and partly with the object of presenting its relations with the state of society,—moral and religious, as well as political. The remainder of the work treats of the diseases which are most common in those countries, and of the various methods of treating them adopted by the physicians. This we shall be obliged to pass over for the present, as we have not space to notice any of the topics of which the author treats. We have given enough, however, to proclaim the melancholy state of degradation to which the healing art is reduced in Turkey; but it is consolatory to reflect, that even within the short period which has elapsed since the publication of Dr. Oppenheim's book, important steps have been taken, both by the Sultan, and the Pascha of Egypt, to correct the evil, and that medical schools have been regularly organized in those countries, the beneficial influence of which has been already very sensibly felt, and will go on multiplying, in proportion as the religious prejudices of the people can be overcome.

COLLECTANEA.

Apis vero ratio media est; quæ materiam ex floribus agri et horti elicit, sed tamen eam propria facultate vertit et digerit.—Nov. Org.

1. *Anatomical Cabinet of the University of Breslau.*—The following preparations contained in this valuable collection, deserve to be mentioned as being exceedingly rare and curious. No. 9,009, A kidney which, besides the usual supply of vessels, receives one from the middle sacral artery. 9,113, A diseased shoulder joint; the glenoid cavity and the head of the humerus having been destroyed in consequence of a spontaneous dislocation, a very remarkable artificial joint was formed. 9,287, Complete obliteration of one of the crural veins of a man, who had been affected with œdema of the leg of that side. 9,836, A portion of the femoral vein perforated by a branch of the arteria profunda femoris. 9,690, A portion of the median nerve perforated by a stout branch of the interosseal artery.

A. W. Otto Zwieter Nachtrag zu dem Verzeichnisse der Anat. Präparat. des Konig. Instit. zu Breslau, and Heckers Annalen, June, 1834.

2. *Perineoraphy.*—Suture of the perineum is undoubtedly one of the most important operations of modern surgery, and for its successful application in a great number of cases, the science is indebted to the ingenuity and talents of M. Roux. It has been recently performed with complete success in the following case, in addition to many others previously reported:

A healthy female, aged thirty-one, who had been married about two years and a half, sustained in the delivery of her first child, which took place eighteen months ago, a complete laceration of the fourchette, perineum, anus, and the inferior part of the recto-vaginal septum. All the inferior part of the pelvis was, consequently, converted into a kind of perpetual outlet,—a *cloacus* which was excessively fetid and horrid to look at, through which stercoracious gases and fecal matter passed away involuntarily day and night. In this condition, she entered the hospital la Charité, and was submitted to the following operation:

Having placed her on the table as in the operation for stone, the surgeon, with forceps, a bistoury and hook, dissected off both edges of the laceration, carefully removing all the irregular and pendent fragments and shreds from the two sides; by means of scissors, the bottom of the rent, as well as that portion of it which occupied the recto-vaginal septum, was treated in the same manner. Three points of suture were then passed profoundly, and a full inch from the edges of the wound, by means of long curved needles armed with strong double ligatures. The ends of the latter were then knotted over two pieces of bougie, according to the ordinary rules for making the quilled suture. Previously to drawing them, however, a small simple suture was introduced in the interval between each of the others, in order to render the coaptation of the edges of the wound more perfect. The patient was restricted to an absolute diet, and no means were resorted to with the view of moving the bowels. The dressings were removed on the sixth day, when the re-union was found perfect. Dry dressings were afterwards applied, and the woman directed to rest on her side. On the tenth day the union was solid, but no evacuation had yet taken place from the bowels since the operation. It was now proposed to promote this by a cathartic enema, as the cicatrix was sufficiently solid to remove all fear of its giving way.

[*Bulletin general de Therapeutique Fevrier*, 1835.

3. *Specific virtues of Radix Aristolochia rotunda in the treatment of intermittent fever.* By Dr. Biermann.—The great difficulty often experienced in arresting the progress of intermittent fever, and especially the liability of the disease to recur, render it desirable that every means calculated to diminish these embarrassments should be farily tried, and the results made public. The preparations of bark, thus far, stand unrivalled for their efficacy in this disease; yet they too often fail, and if a remedy can be found capable of effecting a cure in such cases, an important desideratum will be supplied. Dr. Biermann has experimented extensively with the aristolochia rotunda; and his success with it has been such as to give him high confidence in its remedial powers in intermittent fever. He recommends that it should be administered on the day of the fever, commencing three hours before the period at which it is expected the paroxysm will recur, and giving a dose every hour, so that the last shall be taken an hour before the accession. Should the disease assume an anticipating type, the first dose should be administered as soon as the patient feels the first indications of the approach of the paroxysm. In general, the dose should be increased progressively, but should be regulated by the constitution of the patient, and the violence and type of the disease. It succeeds most promptly in the quotidian form of fever, but in that form relapses are most apt to take place. Against this variety of the disease it may be given on the first day, in doses of a scruple, but should be increased on the two following days to half a drachm, or thirty-six grains. In tertians it was given in half drachm doses on the first day; was increased five grains on the day of the intermission, and in the same ratio on the following day of the paroxysm. In one case of quartian ague, the dose was augmented from half a drachm to a drachm on the first day of the fever; but as active vomiting was produced, it became necessary to reduce the quantity to two scruples. The author remarks, that the cold stage is greatly diminished in violence on the first day of the administration of the remedy, and does not continue generally, more than a quarter of an hour. The hot stage, however, is somewhat increased in intensity and duration, but is succeeded by a copious perspiration. Nearly the same phenomena are repeated in the two succeeding paroxysms, but after that the fever does not return, and the patient is secure against a relapse. This he thinks entitles the remedy to a preference over all others,—Peruvian bark and its preparations not excepted. In some instances vomiting followed about half an hour after the powder was administered. When this was troublesome, it was obviated by diminishing the dose. *Hufeland's Journal der Praktischen Heilkunde.*

4. *Virtues of Coffee, from the Arabic of Sheik Abd-al-Kader Ansari Djezeri Haubali, son of Mohammed.*—O coffee! thou dispellest the cares of the great;

thou bringest back those who wander from the paths of knowledge. Coffee is the beverage of the people of God, and the cordial of his servants who thirst for wisdom. When coffee is infused into the bowl, it exhales the odour of musk, and is of the colour of ink. The truth is not known except to the wise, who drink it from the foaming coffee cup. God has deprived fools of coffee, who with invincible obstinacy condemn it as injurious. Coffee is our gold, and in the place of its libations we are in the enjoyment of the best and noblest society. Coffee is even as innocent a drink as the purest milk, from which it is only distinguished by its colour. Tarry with thy coffee in the place of its preparation, and the good God will hover over thee, and participate in his feast. There the graces of the saloon, the luxury of life, the society of friends, all furnish a picture of the abode of happiness. Every care vanishes when the cup-bearer presents thee the delicious chalice. It will circulate fleetly through thy veins, and will not rankle there: if thou doubtest this, contemplate the youth and beauty of those who drink it. Grief cannot exist where it grows: sorrow humbles itself in obedience before its powers. Coffee is the drink of God's people; in it is health. Let this be the answer to those who doubt its qualities. In it will we drown our adversities, and in its fire, consume our sorrows. Whoever has once seen the blissful chalice, will scorn the wine cup. Glorious drink! thy colour is the seal of purity, and reason proclaims it genuine. Drink with confidence, and regard not the prattle of fools, who condemn without foundation. *Hecker's Wissenschaftlichen Annalen der gesammt. Heilkunde, June,* 1834.

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5. *Radical cure of Varicocele.* By M. Breschet.—In a previous number of our Journal, first series, vol. 2, p. 247, we noticed a new method devised by M. Breschet, for the radical cure of cirsocele and varicocele, consisting of the temporary compression of the enlarged vein through the integuments, by means of a small instrument analogous to dissecting forceps, until sufficient inflammation is excited to effect the obliteration of the vessel. Recently, M. Breschet presented an individual to the Academy of Medicine, who had been affected with varicocele of such prodigious dimensions, that to use the expressions of M. B. *it seemed to form a barrier around the whole testicle.* By means of the forceps the resolution of this immense tumour was accomplished, constituting the sixtieth case in which a cure has been accomplished by this method of treatment. M. Breschet supposed at first, that the forceps proved successful by exciting adhesive inflammation, but subsequent observation has convinced him, that the compressed vessel is completely destroyed by mortification. This has induced him to make a modification in the form of his instrument, and the one that he now employs is analogous to the *enterotome* of M. Dupuytren.

M. Velpeau objected strenuously to the procedure in question, on the grounds of its difficulty, and the danger of its application. According to this surgeon, the occlusion of veins is far from being an innocent operation, and the danger is the same by whatever procedure it is accomplished. He contended that the operation of exposing the vein by an incision, and applying a ligature directly to it would be more simple; or if it should be objected to the incision of the skin, a needle armed with a ligature might be passed through it, and the vein, as recommended by M. Davats, so as to form a kind of twisted suture.

M. Breschet replied, that the danger which attends the obliteration of veins by other procedures, is well calculated to deter surgeons from performing this operation; but that there is a great difference between the accomplishment of this end by the ligature, incision and cauterization, and that by gradual compression, which produces mortification of the tissues, without extending the inflammation to a distance. He remarked that this was the manner in which he secured the obliteration of these vessels, and that thus far he had seen no bad consequences ensue.—*Journal de Médecine et de Chirurgie Pratique, Avril*, 1835.

6. *Death of a female occasioned by the ignorance of an Accoucheur.*—A horrid event, which can scarcely be considered credible, is said to have happened recently to a young married female at Seclin. An *officier de santé* was called to deliver the subject of the case, who had arrived at the full term of utero-gestation. He made several attempts to turn the child, which presented by the arm, and finally succeeded as was thought very well, as the child was delivered alive. Called again by the parents of the patient at about three o'clock in the morning, on account of violent pain, he proceeded to extract the masses of coagulated blood which had collected in the uterus, and other substances, the nature of which could not be ascertained by the assistants. The woman nevertheless died about seven o'clock, suffering excruciating torment. On the examination of the body, it was found that the uterus had been ruptured, and that the mass which had been extracted with the coagula, was a portion of the intestines, which the operator had severed with his finger nails! *Journ. des Connaissances Medicales, Feb.* 1835.

7. *Urtication as a remedial agent.* By Dr. Pittschaft.—The celebrated Hufeland made the remark, that the practice of stinging with nettles had been very improperly laid aside. He represents it as being a valuable remedy in chronic rheumatism and paralysis. It was long since extolled by Celsus in this disease, (L. 3. cap. 27.) and by Aretæus in lethargy (*curat. acut.* L. 1. cap. 2.) Hippocrates advised the skin to be rubbed with nettles to prevent the hair from falling (*de morb. mulieb.* L. 2.) and Spiritus has recommended urtication to be employed for the purpose of restoring repelled exanthematous eruptions. Baglivi observes, (*op. om. p.* 104.) *ex Scabie retropulsa, si asthma fiat, urticis cædenda cutis;* and Camerarius recommends urtication as a means of distinguishing between real and apparent death. In the latter, he represents that it will bring out an eruption. We are also told by Petronius, that it was employed by the ancients to excite the venereal passions; and it is remarked by Pliny (*Hist. nat.* L. 22. cap. 13.) *uvas in ore, procidentesque vulvas, et infantium sedes tactu resilire cogit,—lethargicos expergisci, tactis cruribus, magisque fronte.* And again, *si quadrupes foetum non admittat, urtica naturam fricandam monstrant. Hufeland's Journal der Praktischen Heilkunde, April,* 1834.

8. *Method of obtaining the separation of a necrosed sequestrum without an operation.*—It is stated by Dr. Bouget, that as early as 1814, Professor Delpech, having been disappointed in the treatment of some cases of necrosis, resorted to the plan of dissolving the calcarious matter of the bone by the application of sulphuric acid, in order to soften its texture sufficiently to

render it susceptible of being cut with a knife or cutting forceps. A young man whose arm had been amputated, experienced two very severe attacks of hospital gangrene, which occasioned the end of the bone to project an inch and a half beyond the stump. Months probably would have been consumed in the separation of this sequestrum; but this delay Professor Delpech effectually obviated. He had the external surface of the denuded bone covered with a pledget of lint dipped in a solution of diluted sulphuric acid. A ball of charpie, wet with the same fluid, was likewise introduced into the medullary canal, the reticulated texture of which had been previously broken down. In twenty-four hours the portion of bone was found sufficiently softened to admit of its being separated with ease, and in ten days the end of it was covered with healthy granulations, after which a cure was speedily accomplished.

In 1816, an individual presented himself at the Clinique at Montpellier, affected with a necrosis involving nearly the whole extent of the tibia. Although he was possessed of a good constitution, and was in a condition to undergo a formidable operation, M. Delpech resolved to adopt the procedure by which he had succeeded in the above case. He was desirous at the same time of accomplishing this object without the necessity of dividing the integuments by instruments. To effect this, an eschar was made with caustic potassa upon the upper part of the legs of the extent of six francs, and after this eschar was detached from the bone, a pledget of lint dipped in diluted sulphuric acid was applied to it, which after two or three dressings, renewed at intervals of six hours, became so soft, that it could be broken down with common dressing forceps. Two succeeding applications of caustic potassa and sulphuric acid were then made lower down, in a line with the first, and in this manner the sequestrum was exposed to the extent of five or six inches in length by one and a half in breadth. It was extracted with great facility, measured more than six inches in length, and represented nearly two-thirds of a cylinder. The patient experienced but very little pain, and was discharged cured in a month after his admission.

Dr. Bouget represents that M. Delpech had pursued the same practice with equal success in several other cases, both in hospital and civil practice, and that he had himself resorted to it with great advantage in a case of necrosis of the tibia in a child.—*Journ. des Connais. Médicales, Jan.* 1835.

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9. *Helleborus Niger in Intermittent Fever.*—Dr. Berndt remarks, in his *Klinische Mittheilungen,* that in the treatment of quartan agues he seldom employs the bark or its preparations, but relies chiefly on the black hellebore in large doses, as recommended by Hildanus. He obtained the best effects from it when administered in the following formula:

℞ Extract. Hellebor.
Ammon. Muriat. ā ā ʒ ii.
Extract. absynth. ʒ i.
Aqua menth. pip. ℥ i.

Of this mixture a table-spoonful was administered every two hours. Twelve cases out of thirteen were cured by this method, and it was only found necessary in the thirteenth, to call in the agency of the bark.—*Hecker's Wissenschaftlichen Annalen der gesammt. Heilkunde, Mars,* 1834.

10. *Depurative Liquor of Kœchlin for Scrofulous complaints.*—M. Baudelocque, who has recently published a work on scrofula, represents that he has used the following preparation, which is known in Germany under the name of Kæchlin's liquor, with advantage. This preparation was long ago highly recommended by Helvetius, and according to Trommdorf is prepared in the following manner:

℞ Limaturæ cupri,	ʒ i.
Liquor. Ammon.	℥ iss.

Digest in the cold until the fluid assumes a blue colour; then decant, and preserve for use. To prepare the liquor of Kæchlin, this fluid, which is denominated ammoniated tincture of copper, is to be mixed with the following ingredients:—

℞ Tinct. cupri ammoniat.	℥ ii.
Acid. muriatic,	ʒ v. & grs. xii.
Aqua distillat.	℔. xiii & ʒ iv.

The dose of this tincture, is, for a child of from three to eleven years, from a small to a large tea-spoonful, once a day, to be taken after the principal meal. It should be followed by 'one or two table-spoonsful of sweetened wine.—*Journ. des Connaissances Medicales, Fevr.* 1835.

[Note.—As Helvetius has been referred to in relation to the efficacy of this remedy, having his work before us, which is now very scarce, we shall subjoin his directions for the preparation and employment of the medicine, especially as on referring, we find that the formula employed by him differs materially from that given above, on the authority of Trommdorf.

Helvetius employed two preparations of copper, one of which he denominated green tincture of vitriol; the other blue tincture. The following are the directions for the preparation of the green tincture:

Take of cyprian vitriol ℥ ii. pure sal ammoniac ℥ iss. Powder them separately; then mix, and put them in an earthen vessel, over ignited charcoal, and reduce them to the consistence of a thick syrup. The ingredients should be occasionally stirred with a wooden spatula, until the mixture assumes a greenish colour inclining to brown. Finally, increase the heat for a few minutes; and the mixture will gradually dissolve, and become as fluid as water. This done, remove the vessel from the fire, and continue to stir it until the mixture becomes thick, nearly cold, and finally of a firm consistence. Pulverize in a heated mortar, and pass the powder through a filter; if powdered in a cold mortar, it is apt to deliquesce. Add this powder gradually to half a gallon of rectified alcohol in a glass vessel, taking care to shake the vessel from time to time, to prevent the powder from being deposited. When all the powder has been thrown in, add twelve pounds more of alcohol, close the vessel with a moistened bladder, and digest on a sand bath with a gentle heat, for about three days and nights. This will furnish a tincture of a beautiful emerald green colour, which must be filtered through paper, and preserved in a close stopped bottle.

To prepare the blue tincture, it is only necessary to add to the above, a fifth or sixth part of aqua ammonia, the quantity of which must be varied according to its purity,—always taking care to add the liquid until the tincture assumes a beautiful azure hue. This second process is said to render the tincture of vitriol more effective and resolvent.

Whenever, says M. Helvetius, a child is attacked with scrofula or rickets, it should be directed to have every morning, fasting, as many drops of the green tincture as it has years of age. The dose, however, may be doubled, when it does not occasion vomiting; or trebled, when, in consequence of the existence of a superabundance of phlegm in the stomach and lungs, emesis may be necessary. Under other circumstances, the small doses should be continued. The medicine should be mixed with a little wine, and sweetened with sugar, but should never be given in metallic vessels. If the child be at the breast, it should not be allowed to nurse for an hour before, or an hour after taking the medicine; and if weaned, fasting should be enjoined for the same period. The child, however, after taking the morning dose, should dine at the usual time, and three hours afterwards, take a second portion, containing one drop more than the morning dose. Food may be allowed an hour afterwards, as in ordinary. This course with the green tincture should be continued eight days. At the end of this period, the blue tincture is to be administered for the same length of time, and according to the same rules, after which the green tincture is to be resumed, and the two thus alternated through a period of eight days each, for the first month. They are also to be alternated after that term; but during the second month, the periods are extended to fifteen days. At the period of each transition from the one tincture to the other, the child should be purged with some gentle laxative; and injections, together with a proper attention to diet, should be called into requisition during the whole treatment. This plan of treatment is so highly extolled by Helvetius, in tabes and rickets of children, that it deserves from modern physicians a fair and candid trial. It is for this reason we have selected the above details from the work of the author in question.—*Traité des maladies les plus frequentes et des remedes propres a les guerer. Tom. ii. p.* 359, *Paris*, 1727.—Editor N. American Archives]

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11. *Ointment of M. Dupuytren to prevent the falling of the hair.*

Tinct. Cantharid. ʒ i.
Axong. Porci. ℥ i. & ʒ i.

The tincture employed in this preparation, is prepared by digesting one ounce of powdered cantharides in eight ounces of alcohol. The lard and the tincture are incorporated by trituration.—*Journ. de Med. et de Chirurg. Prat. Mars*, 1835.

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12. *Extraordinary cure of Insanity by the efforts of nature.* By Dr. Munsenthaler.—A young woman, aged about twenty-five years, whose mother had been attacked with insanity at the age of 30, which continued for several years, being thwarted by her parents in her desires to form a matrimonial connection, became at first melancholic, and finally completely insane. She shrieked, cried, and raved incessantly; fancied both herself and her parents possessed; made several attempts to fire the house and the barn; and on one occasion attempted to drown herself in the main, from which, however, she was rescued. The case continuing to grow worse, the doctor was called, who treated it with emetics, venesection, cold to the head, and antimonials. All these means failing, he next prescribed the *gratiola*, but with no better success. Cicuta and digitalis, and pustulation of the shaved scalp were then resorted to, but no amelioration was perceived. By this time the parents had

lost all hope,—felt satisfied that nothing short of the miraculous interference of providence could restore their daughter, and entreated that she should not be disturbed by further remedial measures. About the middle of the present month, observes Dr. Münsenthaler, I was requested by the mother to see the patient, when to my utter astonishment the latter met me in a friendly manner and exclaimed, "are you not surprised to find me again well?" "Shall I inform you how my recovery took place?" The doctor was then informed, that her insanity had continued up to the 5th of the present month; that on the 2d she becames covered with an immense number of watery vesicles, (varicella?) which confined her to bed, and occasioned violent inflammation about the neck; and such a profuse perspiration flowed from the whole surface of the body, that it became necessary to change her linen every three hours. On the 5th, the patient, who had until then continued insane, and made constant attempts to destroy the bed, and commit violence upon the bystanders, became suddenly calm, and conversed rationally with her parents, who regarded it merely as a dream; but in the course of a few days they were rejoiced to find that it was reality; and after the eruption dried, and the perspiration ceased, the patient recovered perfectly, and resumed her ordinary domestic duties.—*Hufeland's Journal der Praktischen Heilkunde, Mai*, 1834.

13. *Fluxus cœliacus.*—Dr. Pittschaft, after remarking in reference to some observations made by Dr. Rummel in reference to this disease, that the muriate of ammonia, in combination with mild aromatics, is often useful, subjoins; but I fully agree with the author, that *nux vomica*, as well as opium, exercises a peculiar power in allaying the exalted irritability of the rectum, and that there is no other remedy which proves so efficacious as these in subduing the morbid irritability of the muscular coat of the stomach and whole alimentary canal.—*Hufeland's Journal der Praktischen Hielkunde, Marz,* 1834.

14. *Precocious menstruation.*—Dr. Ströhmayer remarks, that in 1816, he saw in the vicinity of St. Polten, a female child, aged nineteen months, who was generally affected during the course of one day with a mucous discharge from the vagina, and for four days afterwards with a free discharge of blood, which recurred for some time at regular monthly periods like the menses. The child in other respects was healthy, passed through the vaccine disease kindly, and had all her functions performed regularly up to the age of three years, at which period she died of hectic fever. *Strohmayer Medicinisch. Praktisch, Darstellung, Wien*, 1831.

15. *Nux Vomica in spasmodic Asthma.*—A case is reported in Kausch's *Geist und kritik der medec. chirurg. Zeitschriften*, of a young man, aged twenty years, who after having employed all the most efficacious remedies for spasmodic asthma without success, was effectually relieved by the continued use of nux vomica. The habitual difficulty of respiration subsided, and the paroxysms of asthma disappeared and did not return. *Strohmayer Medecinisch. Prak. Darstellung*, 1831.

16. *Death produced by long Fasting.*—In a late number of Graefe and Walther's *Journal für Chirurgie und Augenheilkunde,* a case is reported of an individual affected with amourosis, who intrusted himself to the care of a man, under the promise of obtaining a cure by starvation. For a period of forty-seven days he took no solid aliment, and during four weeks, nothing but pure water, except four cups of tea, sweetened with sugar, which he took on new-year's day. His weight, which previous to the commencement of this treatment was 130 pounds, was reduced to 97; and being thus reduced to an extreme state of emaciation, he died of nervous apoplexy, without having obtained a cure of his amourosis.

Autopsy.—Total deprivation of blood—serous and mucous secretions natural—from eight to ten ounces of serosity in the pericardium—lungs studded with tubercles, some of which were in a state of softening and ulceration. The intestines were free from inflammation, but were contracted throughout their whole extent—especially the transverse arch of the colon. All the organs of the thorax and abdomen in a state of atrophy. The cranium was not opened.—*Gazette Medicale, Février,* 1835.

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17. *Depurative Syrup.*—The following syrup has been employed with considerable advantage in several varieties of cutaneous eruptions.

R. Radex. Rumicis Patientiæ.		
Arctium Lappæ, ā ā	℔ ii.	
Fol. Saponariæ,	℔ ii.	
Lig. Guayac.	℔ ii.	
Fol. Sennæ,	℥ viij.	
Mel. despumat,	℔ x.	
Sach. Alb, ā ā		
Aqua commun,	℔ xxx.	(*Devergie.*)

M. ft, Syrup.—It may be taken in the same doses as the syrup of sarsaparilla, or other preparations of a similar kind.

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18. *Asphyxia from a foreign body lodged in the Trachea.*—M. Murat reported to the Academy of Medicine, at a recent session, the case of an individual who died asphyxied while eating. On examination after death, the trachea was found obstructed with a large mass of beef, and the lungs at some points, affected with sub-pleural emphysema.

[*Jour. Hebdomad. Mars,* 1835.

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19. *New method of obliterating Aneurismal Tumours of the Extremities.* By M. Leroy D'Etoille. The procedure proposed consists in establishing mediate compression upon two points of the artery, at an interval of two inches from each other. The portion of blood thus isolated as it were, coagulates more promptly, than when compression is made in the ordinary way upon a single point. In order to promote the formation of a coagulum, M. Leroy keeps the part covered with ice, and with the view of coagulating the albumen of the isolated portion of blood, he employs acupuncture and galvanism.—

[*Lancette Française, Mars,* 1835.

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20. *Epidemic Hemeralopia.*—Some observations on this subject are contained in Casper's Wochenschrift, No. 14, 1834, from which it appears, that an

epidemic hemeralopia has appeared every summer, for five years, in a charitable institution at Berlin, containing a hundred children. It re-appeared in the summer of 1833, without any appreciable cause, and attacked twenty-three boys and nine girls, amounting in all to thirty-two, out of which number eight had suffered the preceding year. Classified according to age, the subjects of the disease stand as follows: 5 were between the ages of 6 and 7 years; 11 between 8 and 9; 13 between 10 and 11, and 3 between 12 and 13. But it should be remarked, that a large proportion of the children are between the ages of 5 and 10, and that there are very few in the institution over 12 years old. In fourteen, the disease appeared in the month of April—thus proving that it does not depend either upon the heat of summer, or the dazzling rays of the summer sun. Thirteen were attacked in May, and only three in June. The author of the report, discouraged by his previous unsuccessful attempts to arrest the progress of the disease, abandoned his patients this year to the unassisted efforts of nature, and in most of them the hemeralopia disappeared by the month of August. In ten children its duration was four months; in fourteen three months; in five two months, and in three one month.—*Archives Generales de Médecine, Fevr.* 1835.

21. *Lepra Vulgaris.* The editor of the London Medical and Surgical Journal, remarks,—we have lately cured a young woman of lepra vulgaris, of five years standing, which covered the whole cutaneous surface, and defied a variety of remedies, with the following ointment. Her general health was duly attended to.

℞	Hydriodate of potass.	ʒ iss.
	Prepared lard,	℥ iss.
	Tincture of opium,	ʒ i.

M. Gibert found the following successful at the Hôpital St. Louis.

℞	Ioduret of Ammonia,	℈ i.— ʒ i.
	Prepared lard,	℥ i.

Daily, for twenty-nine days.

22. *Remedy for Itch.*—Dr. Hospital uses the following ointment with success:

℞	Lac. Sulph.	℥ iss.
	Pulv. Clor. Calcis.	℥ ii.
	Adipis,	℥ vi.

Double this quantity effects a cure.—*Lond Med. and Surg. Journal, May,* 1835.

23. *Cure of Jaundice.*—Frere Le Ome used to cure jaundice by giving a drachm of dried and powdered walnut leaves, infused in a glass of white wine, every morning fasting. From fifteen to twenty doses were for the most part sufficient to annihilate the disorder.—*Ib.*

VARIETIES.

The Medical Society of the State of New York offer a prize of fifty dollars for the best dissertation on the following subject:

"*The influence of trades, professions and occupations in the United States in the production of disease.*"

The following gentlemen compose the committee on that subject: Drs; John B. Beck, James R. Manley, Richard Pennel, John Stearns, and John C. Cheeseman.

The Editors of the Boston Medical Magazine "offer a prize of fifty dollars for the best Medical Essay, consisting of not less than fifteen, nor more than thirty octavo pages, which shall be offered on the following conditions:

1. The subject of the essay may be chosen by the writer, from among the various topics of medical science, literature, practice and ethics.
2. Every competitor must deposite his manuscript with William D. Ticknor, No. 138 Washington street, Boston, post paid, on or before the first day of January, 1836,—accompanied with a sealed packet bearing the name and address of the writer.
3. A committee of five disinterested and accomplished physicians will be selected to examine the essays, and adjudge the premium.
4. The successful essay will be published in the Magazine, and a copy of it sent to every medical institution in the United States, bearing the names of the author and of the gentlemen who acted as judges.
5. All the essays offered for the prize shall be at the disposal of the proprietors of the Magazine, who may publish them or any of them, as they may judge best; but the letters containing the names of the unsuccessful competitors shall be destroyed unopened, as soon as the decision of the judges is made.

New Medical College at Cincinnati.—We learn from a supplement to the Western Medical and Physical Journal, that a new medical school has been recently organized in connection with the CINCINNATI COLLEGE, the several chairs of which are to be filled by the following gentlemen:

Special and Surgical Anatomy,
JOSEPH N. MCDOWELL, M.D.

General and Pathological Anatomy, Physiology and Medical Jurisprudence,
SAMUEL D. GROSS, M.D.

Surgery,
HORATIO G. JAMESON, M.D.
(Late of Washington Medical College, Baltimore.)

Obstetrics and the Diseases peculiar to Women and Children.
LANDON C. RIVES, M.D.
(Late of Virginia.)

Chemistry and Pharmacy,
JAMES B. ROGERS, M.D.
(Late of Washington Medical College, Baltimore.)

Materia Medica,
John P. Harrison, M.D,
(Late of Louisville, Kentucky.)
Theory and Practice of Medicine,
Daniel Drake, M.D.
Adjunct Professor of Chemistry and Lecturer on Botany,
J. L. Riddele.
(Late of New York.)

Editorial Notices and Acknowledgments.

The communications of Professor Potter, of Baltimore, Dr. Cumming, of Frederick county, Md. Dr. Tolefree, of New York, and others, will appear in our next.

We are not in the habit of informing our contributors of the notice taken of their communications by American and foreign journals. But as such information may be flattering to some of them, as the circumstance is certainly highly agreeable to ourselves, we may state, that no medical periodical of this country has its pages more frequently noticed abroad than the Baltimore Medical and Surgical Journal, and its successor, the North American Archives of Medical and Surgical Science. Our Journal is regularly sent to most of the American, English, French, Italian, German, and Danish medical periodicals; and we have been highly gratified by the frequent extracts which have been made from it by our cotemporaries, both at home and abroad. In more than one instance, our selections from continental journals have returned to Europe, and been transferred from our pages to those of the English periodicals. If this species of fame be considered by our professional brethren as a sufficient incentive to the use of the pen, we think they may reasonably count on it by honouring our pages with their communications. If they require compensation, we regret that we can only offer them our thanks, and hold up as their reward, that which should be esteemed above all price,—the consciousness of doing good.

Outlines of Comparative Anatomy; by Robert E. Grant, M.D. F.R.S. &c. Professor of Comparative Anatomy and Zoology in the University of London, and Lecturer on Human Physiology. Part I. containing osteology, ligaments and muscles, illustrated with 65 wood cuts. London, 1835. J. B. Ballière.

Revue Médicale Français et Etrangère, for January, February and March, 1835. (*In exchange.*)

Annales de la Médecine Physiologique, for December, 1834. (*In exchange.*) This Journal has been merged in the Journal Hebdomadaire.

Bulletin Général de Thérapeutique Medicale et Chirurgicale. Livraison 1, 2, 3, 4, 5, 6, of vol. viii. for January, February and March, 1835. (*In exchange.*)

Journal des Connaissances Medicales Pratiques et de Pharmacologie, Nos. 1, 2, 3, 4, 5, 6, 7, for August, September, October, November and December, 1834, and January and February, 1835. (*In exchange.*)

Journal de Médecine et de Chirurgie Pratique. Cahiers 1, 2, 3, 4, for January, February, March and April, 1835. (*In exchange.*)

Journal des Connaissances Medico-Chirurgicales, for June, 1835. (*In exchange.*)

Journal Hebdomadaire des Progrès des Sciences et Institutions Médicales. Nos 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, for January, February and March, 1835. (*In exchange.*)

La Lancette Français; Gazette des Hopitaux Civils et Militaire. Nos. 1 to 46, for January, February, March and April, 1835. (*In exchange.*)

The London Medical Gazette, part i. vol. ii. for April, 1835.

The Lancet, Nos. 1, 2, 3, 4, for April, 1835.

The London Medical and Surgical Journal, Part 39, for April, 1835.

The Boston Medical and Surgical Journal, Nos. 20, 21, 22, 23, 24, for July, 1835. (*In exchange.*)

Medical Magazine, No. 23, 24, for July, 1835. (*In exchange.*)

The United States Medical and Surgical Journal, No. 11, for June, 1835. (*In exchange.*)

The Western Medical Gazette, No. 12, for April, 1835. (*In exchange.*)

THE FACULTY
OF THE
MEDICAL COLLEGE
OF THE
STATE OF SOUTH CAROLINA,

Announce to the public that the Lectures of this Institution will be resumed on the second Monday in November, on the following branches:

ANATOMY—J. Edwards Holbrook, M.D.
SURGERY—John Wagner, M.D.
INSTITUTES AND PRACTICE OF MEDICINE, S. Henry Dickson, M.D.
PHYSIOLOGY—James Moultrie, M.D.
MATERIA MEDICA—Henry R. Frost, M.D.
CHEMISTRY—Edmund Ravenel, M.D.
OBSTETRICS—Thomas G. Prioleau, M.D.
DEMONSTRATOR OF ANATOMY—John Bellinger, M.D.

In issuing this their circular, they cannot but congratulate themselves upon the success which has attended their exertions. The gradually increasing classes of each succeeding year,* while they have inspirited them in their undertakings, have also reminded them of the extent of their obligations, and excited them to renewed diligence in the performance of their duties.

They proceed to state what has been done in the advancement of the interests of the college, as well as the opportunities which are afforded for the acquirement of a medical education.

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* The class in 1833 & 34 numbered 104 students, and 39 graduates. The class in 1834 & 35 numbered 127 students and 38 graduates.

In the several departments of the profession, the opportunities for improvement have been much extended, and exertions made to place this institution upon as respectable a footing as any other in the union.

The library established a year since, numbers upwards of 2,000 volumes of useful, necessary and valuable books.

Additions have been made by contributions and purchases to the museum of specimens in natural history, phrenological casts, and anatomical preparations. Orders were sent during the past year to France and Italy, for anatomical preparations, of which some have been received, and others expected. Among the first are some very interesting specimens of the absorbent system from Bianchini of Pisa, which he has pronounced better than any ever sent to this country.

An Infirmary established by the Faculty has been instrumental in bringing to the notice of the students, diseases and morbid affections of a very interesting character.

The operations performed before the class during the past year have been lithotomy;--for hydrocele, with the several modes of treatment by incision, seton, and injection; for cataract, by depression, puncturing and extraction; for strangulated hernia; extirpation of cancerous mamma, and tumours of various sizes; amputation of the leg, penis, &c. &c.

Opportunities for clinical instruction are furnished by attendance upon the Marine Hospital and City Alms House, the wards of which, by a resolution of the City Council, are open to all *students of medicine in the city*.

The qualifications for a degree are similar to those of other colleges.

Good boarding and lodging can be obtained in the city at four dollars per week.

The healthiness of Charleston, with its moderate climate during the winter season, may be inducement with many to resort to this institution for health, and the prosecution of their medical pursuits. Henry R. Frost, *Dean.*

UNIVERSITY OF MARYLAND.

The Lectures in the Medical Department of this Institution will commence on the last Monday of October, and continue until the first of March.

Nathaniel Potter, M.D. *Pathology, and the Practice of Medicine.*

Richard Wilmot Hall, M.D. *Obstetrics, and the Diseases of Women and Children.*

Nathan R. Smith, M.D. *Surgery.*

Julius T. Ducatel, M.D. *Chemistry and Pharmacy.*

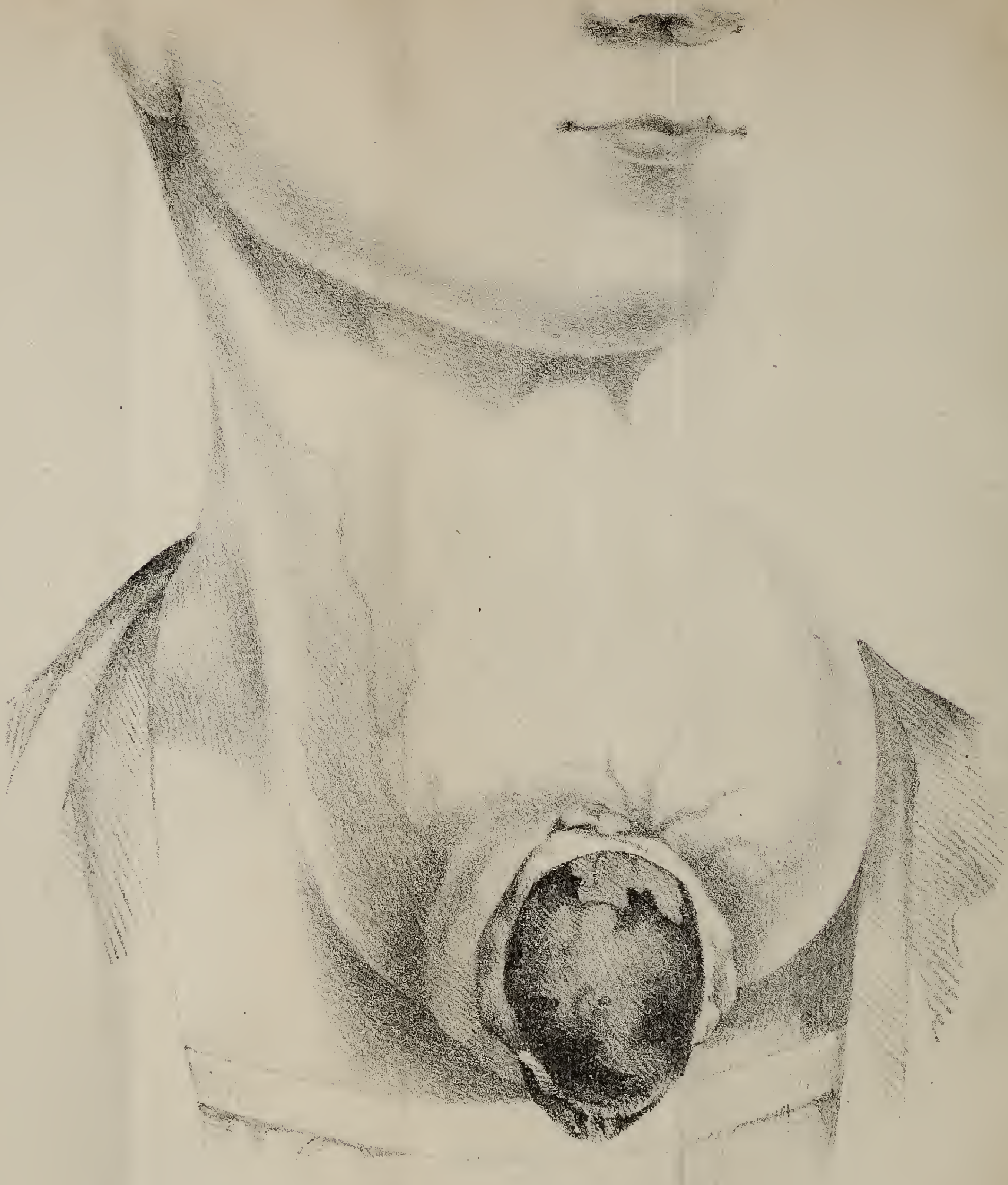
E. Geddings, M.D. *Anatomy and Physiology.*

Robley Dunglison, M.D. *Materia Medica, Therapeutics, Hygiène, and Medical Jurisprudence.*

Clinical Lectures will be given at the Baltimore Infirmary, by the Professors of the Practice of Medicine and Surgery.

With a view to afford every facility in the prosecution of Practical Anatomy, the Demonstrator--Dr. Baxley—will open the dissecting rooms on the first of October.

Baltimore, July, 1835. ROBLEY DUNGLISON, M.D. *Dean.*



Tumor of Thyroid Gland
before Extirpation.

Lith of J. Penniman Balt.

NORTH AMERICAN ARCHIVES
OF
MEDICAL AND SURGICAL
SCIENCE.

VOL. II.] SEPTEMBER, 1835. [No. 6.

ARTICLE I.

Case of Limosis Expers, supervening on Chlorosis, with Remarks. By SAMUEL FORRY, M. D. of Westminster, Md.

MISS MARY AGNES, S. S.—the subject of the following narrative, is now ætat. 21; of a constitution presenting physical relaxation and delicate stamina. The period for the natural development of the sexual organization, was attended with that train of morbid phenomena, the assemblage of which constitutes chlorotic disease. After several ineffectual attempts, at remote intervals, towards establishing the menstrual secretion, nature, encumbered by pathological difficulties, found herself inadequate to the task of fully developing the various physiological laws of organized life, instituted by her own wisdom. From that period to the present time, complete suppression, or perhaps retention of the menses, has existed, complicated with all those multifarious manifestations of disease, pertaining to the formation, or developed during the progress, of that protean malady, known under the vague term, dyspepsia. Consecutive implication of the liver, and spinal irritation, evinced by pressure on the lumbar vertebræ, were also manifest. Thus was established a series of morbid actions, which, through a concatenation of sympathies, appeared to extend their influence to every tissue and organ.

Acting upon the principle, that a derangement in the function of menstruation, always follows consecutively in that train of abnormal phenomena, which pertain to the irregular development of puberty, our attention was more particularly directed to its causation. But of all these outward manifestations of diseased actions, those of the stomach were most imperious in the intensity of their character. This organ was, indeed, so extremely irritable as to eject, instantly, whatever entered it, even articles of digestion the most bland and least irritating. They scarcely passed the cardiac orifice of the stomach before their ejection took place, accompanied with much watery fluid; and this, too, without any effort on the part of the patient, their appearance in the mouth being often her first intimation of the occurrence. The endermic method of applying the sulphate of morphium over the epigastric region, so far succeeded in diminishing this excessive irritability as to render the organ capable of retaining medicines. Various modes of treatment were then instituted, as the varying phenomena furnished a guide to lead us to a rational therapeutics; but as the pathology of this disease is still involved in much obscurity, (assuming that we possess an accurate knowledge of the properties and powers of our remedial agents,) no more than an approximation to a clear and unerring application of our curative means can possibly be attained. As there was much derangement of the hepatic functions, connected with a torpid condition of the bowels, the dejections being small in quantity and unnatural in appearance, recourse was had to some preparation of mercury. Although there was an evident accumulation of fæces, yet the intestines were so obstinately constipated, that even aloes and rhubarb could procure but very small evacuations; but the fear of exciting permanent gastro-duodenitis, prevented their frequent repetition. The moment, however, the mercury produced its specific effect, the secretions were poured out from their hitherto dormant sources, and the alvine discharges were astonishingly free and copious; and this condition of the bowels was maintained for several weeks, during which time, the dejections consisted of three or four daily evacuations, black in aspect, and large in quantity.

The accumulated feculent matter having been removed by the continued use of laxatives, and the hepatic, intestinal, and dermoid functions being, in some measure, corrected, the patient was induced to observe strictly all the dietetic rules laid down in the treatment of chronic irritation of the gastro-duodenal mucous tissue. In accordance with the principles of Marshall Hall, the rational hope was now entertained, that pure country air and regular exercise in conjunction with the administration of the ferruginous tonics, would soon restore the young lady to the unalloyed pleasures of renovated health; but the illusive hopes, excited by this flattering calm, remain yet to be realized. An evident amelioration of the symptoms was manifest, in the returning glow of health and the resuscitation of long lost energies; but this temporary relief was soon succeeded by the return of that mental and coporeal misery, entailed by this disease upon its unfortunate victims.

Subsequently, the treatment has been so modified as to meet our pathological views, indicated by the existing phenomena of morbid action. Irritation of the spinal marrow, at one period of the disease, claimed our particular attention; but long-continued and extensive counter-irritation, by means of the ung. canthar. and ung. antim. tart., removed all tenderness, evinced by pressure on the lower dorsal and upper lumber vertebræ: so manifest, indeed, was the improvement of the general health, that we flattered ourselves into the belief, that we had now compelled this obscure malady to confess its secret cause: and elated with a hope that allured but to deceive, we hastened to gladden the heart of our desponding patient with the prospect of a speedy recovery.

At no time, however, were the powers of digestion more than partially re-established. A slight but continued mercurial impression on the system was several times excited, and always with an amendment of the digestive powers as well as the general condition of the system. It was, in truth, only at the periods immediately succeeding ptyalism, that her stomach, during the last two years, could retain solid food of the least irritating quality. Medicines were generally retained, but solids and fluids were as generally rejected. Great uneasiness, and frequently excruciating agony, in the stomach and bowels, followed the introduction of all ingesta save what was purely fluid. To the sensation of hunger, she has been a stranger for more than two years; and it is only at the earnest solicitation of her anxious parents, that she can be prevailed upon, sometimes for the period of eight or ten weeks, to swallow any thing but tea sweetened with sugar: and singular to relate, the fluid ejected from the stomach, very frequently, exceeds in quantity that taken. At irregular and often remote intervals, the stomach, however, regains, for a time, its healthful function; and, doubtless, the other organs concerned in the assimilative process, perform their peculiar functional acts. For example, during the present summer, she has eaten, with apparent satisfaction, the fruits of the season, such as strawberries, early peaches, and cherries; and contrary to our views on the subject of dietetics, her stomach has of late retained and digested radishes and cucumbers; but this is merely another illustration of the diversified idosyncracies of individuals in regard to the caprices of this organ and its power of converting ingesta, apparently the most incompatible with its enfeebled condition, into the elements of our organization.

During all this period of mental and corporeal suffering, the young lady has borne up with a fortitude almost supernatural. It has only been, at short intervals, during some exacerbation of her disease, that she has been confined to bed. Even at this time, she is capable of walking a considerable distance, of riding out, or attending to the ordinary vocations of a household. The diversified functions of the system appear, to a casual observer, to move in harmony; and even the apparent glow of health often animates her countenance.

Inasmuch as this disease, from its origin, was one of more than ordinary interest, frequently presenting strange and anomalous characters, we occasionally apprised our friend, Professor S. Colhoun, of its progressive history, of whose valuable information we availed ourselves in the management of the case.

As the parents of this young lady are individuals of respectability, veracity, and intelligence, so much so, indeed, as to preclude the suspicion that any deception might be practised by either party, we were induced to propound the following questions for their consideration.

1. How long a period has elapsed since the habit of fasting was first contracted?

2. How long, at any special time, has her diet been wholly restricted to tea and water alone?

3. How long, at any distinct period, to water alone?

4. How long, at any time, has she existed without either solids or fluids?

To which interrogatories, the appended reply was kindly furnished:

1. "By the 1st August, twenty-eight months will have expired."

2. "According to the best of our recollection, nine or ten weeks was the longest period; and on frequent occasions, it extended to six or seven weeks. During the last two years, the solid food eaten by her, as regards animal diet of every description, does not exceed an half pound; and during the same space of time, she has not consumed a common-sized baker's loaf of bread. With the exception of the fruit of this season, tea sweetened with

sugar, has been her principle article of nourishment. The different kinds of imported tea, as well as our indigenous variety, especially the flowers of sassafras, have, from time to time, been had recourse to. For a short period, she has, sometimes, used coffee, chocolate, or porter; and very frequently, after drinking any of these beverages, it was instantly rejected, accompanied by an increased quantity of watery fluid. We will add that, for many months of this time, she scarcely slept two hours out of every twenty-four."

3. "As pure water does not agree with her stomach, she has very seldom made use of any."

4. "No particular length of time remembered. The little nourishment, however, taken for the space of two years, is quite incredible. Very often, a single cup of tea, and this too rejected instantaneously, would constitute her daily allowance for a succession of days."

Upon a review of this case by a follower of the modern French school, I fear he will find much to condemn. Under the influence of his physiologico-pathological doctrines, he will behold, as a natural consequence of this "violent perturbating treatment," the steady march of the disease onward, the intensity of the organic lesions increased, and by the irradiation of the augmented irritation from its primary seat, the progressive implication of other and remote organs. But it was under pathological views of this character that our treatment was first instituted: To subdue the local irritation and consequent vascular congestion, was the end constantly kept in view. Depletion, revulsion, and total abstinence were called into requisition; but nothing short of the mercurial impression on the system could restore the suspended secretions and dislodge the enormous accumulation of fæces: and it was from the mercurial treatment only, that any amendment ever resulted, and this improvement invariably followed each successive administration of blue pill or calomel. The mineral tonics, narcotics, aloes, &c. variously combined, were then employed; and unless eccoprotics of the more active kind were, from time to time, prescribed, all the disagreeable symptoms attending constipation of the bowels, were rapidly induced, such as furred tongue, offensive breath, flatulence, nausea, and headache. Unfortunately, an unconquerable aversion to the use of enemata, in this country, often deprives the physician of one of his best resources. In forming a proper estimate of this case, however, it should be borne in mind, that the impaired functions of the assimilating organs, digestion and sanguification, connected with the excessive development of the lymphatic system, so impressed upon this disease its peculiar chlorotic features, as to distinguish it, in an eminent degree, both in regard to its pathology and treatment, from a case of mere chronic gastro-duodenitis.

Remarks.—As a history of this kind presents an anomaly in nature of so extraordinary a character, as almost to repulse sober belief, it may not be an exercise of misapplied time, to investigate this curious subject with some degree of attention. Denied the key that unlocks the arcana of creative wisdom, we are reduced to the necessity, in order to shed a faint ray of light upon this inscrutable mystery in the animal economy, to pass in rapid review a few of the numerous examples of similar instances of chronic fasting, drawn from the various orders of the animal kingdom.

In the history of various kinds of fishes, it is a well established fact, that pure water alone affords nourishment enough to supply the actual wants of nature. Leeches and tadpoles are familiar examples of this assertion. The goldfish and several other species of the carp are endowed with similar powers: even the pike, with all his natural propensity for gluttony, will both live and thrive, when confined in a marble basin of pure water. Rondolet kept a silver fish in a glass globe of pure water alone, for three years, during which space of time it continued to grow so rapidly as to fill the vessel in which it was confined.

That the mere atmospheric fluid is sufficient to support animal life, is a familiar fact in the history of snails and chamelions. In the philosophical transactions, as quoted by Dr. Good, we are informed that Mr. Baker had a beetle secured, during three years, in a glass confinement, under severe dietetic regimen, consisting of nothing more than mere atmospheric air; at the expiration of which period, he had the good fortune to escape from the hands of his tormentor, and wend his way in search of a more nutritious diet. And in the Monthly Review, as cited by the same writer, we are apprized of a similar experiment performed by Latreille: he stuck a spider, remarkable for the apparent gusto with which it devours its prey, to a piece of cork, and precluded it from all food whatever for four successive months, when it still manifested as much liveliness as ever. Vailliant had a spider that lived eight months without food, when its strength was sufficient to kill another, as large as itself, put under the receiver where it was kept. Two cerastes or horned snakes were confined, by Mr. Bruce, in a glass jar during two years, without giving them any nourishment.

This peculiar tenacity of life appears to be possessed more especially by animals of an amphibious nature. Frogs and toads, tortoises and lizards, have been found apparently dead and fossilized in trunks of trees and blocks of marble, so deeply imbedded that they must have been so situated, in many instances, for more than a century. The mouth is often found glued up, with a viscid substance, so tenaciously, that in the very effort to dislodge this material, they frequently die of suffocation. Our ephemerides, indeed, present such a multiplicity of examples, based too upon authority of the most unquestionable character, that sober judgment can no longer, consistently with the true spirit of philosophy, refuse to yield up its candid prepossessions, in view of oft-confirmed experience, the touchstone of all hypothetical reasoning.

In Dalyell's Introduction to Spallanzani's Tracts on Natural History, many instances are adduced of animal life being sustained under the privation of food. He tells us, upon the authority of Buffon, that a royal eagle survived five weeks without food. A badger lived a month; and several dogs, thirty-six days under a total abstinence from sustenance. A crocodile lived two months under the same regimen. Leuwenhoeck had a scorpion that lived three months; and bears and vipers have lived six. John Hunter enclosed a toad between two stone flower pots; and at the expiration of fourteen months, it was as lively as ever. Instances are quoted by M. Lue of a similar character: closely confined in sealed vessels, the same animals lived eighteen months without food or respiration. With Redi, land tortoises lived eighteen months; a chameleon, eight; and a viper, ten. *Cum multis aliis.*

In relation to some of these lower orders of animals thus confined, it has been thought that invisible animalculæ might form their aliment. The experiments of Dr. Edwards, of Paris, have thrown some light upon this subject: he has ascertained that some indirect communication of air is absolutely necessary to support the life of lizards, toads, and other amphibials of the batrachian family; that blocks of mortar and heaps of sand are sufficiently porous for that purpose; but that, if encompassed by mercury or even water, they perish inevitably. During the torpid state of hybernation, it has been argued that, inasmuch as the secretions and excretions are suspended, the small expenditure of the matter might be easily supplied by the gradual absorption of the adipose tissue. Thus the bear, dormouse, &c. awaken from their torpidity in a state of emaciation; although it was an opinion current among the Romans, that the dormouse became fatter during the hybernating season. In the Linnæan Transactions, there is an account of a hog, buried in its sty, for 160 days, under a great mass of the chalk of Dover-cliff; when overwhelmed by the mass, it weighed 160 lbs.; but at the time it was released, its weight did not exceed 40lbs. In what this peculiarity of organization, which enables these animals to maintain the vital principle in this long-continued dormant state, may exist, is a question easier to propound than to answer.

With these facts before us, we are the better prepared to receive with less hesitancy than under opposite circumstances, the remarkable anomaly in nature, presented in the narrative which has elicited these remarks. Not only analogy, however, but the recorded experience of successive centuries, has proven incontrovertibly that man, under certain conditions, possesses the power of existing without aliment for a long period of time.

As the records of medicine abound in such facts, I shall refer to several, which, from the high character of their reporters, are too well established to allow of controversy. Raulin mentions an instance in which fasting was endured fifty-two days, water alone being drunk: and Dr. Willan attended a patient whose only article of diet, for sixty-one days, consisted of water flavoured with orange juice. In the Edinburgh Medical Essays, for 1720, Dr. Eccles relates the case of a beautiful young lady, in whom muscular rigidity supervened in consequence of the sudden death of a fond and indulgent father: the muscles of deglutition were so violently contracted as to preclude the possibility of swallowing any thing during two distinct periods of time. Unaccompanied with the sensation of hunger or thirst, the former instance continued for thirty-four, and the latter for fifty-four days: although occurring in quick succession, her loss of flesh was but inconsiderable. Numerous examples of a similar kind, but of much longer duration, have been collected by Haller and other physiologists, some, indeed, extending to no less a period than sixteen years; but in the different volumes of the Philosophical Transactions, we meet with the histories of cases of three, ten, fifteen, and eighteen years' continuance; and these, too, of so unimpeachable a character as to be entitled to our unsuspecting confidence. In one instance, four men, buried in a deep excavation, were obliged to live upon spring-water alone for twenty-four days, before the superincumbent stratum of earth could be removed. A later number of the same journal contains a much more extraordinary account, drawn up with the most rigid scrupulosity and supported by strong evidence of a concurrent tendency. The subject is a young man ætat. 16; thrown into an inflammatory fever, in consequence of the imprudent use of cold water, when in a profuse perspiration, he recovered with such a dislike to aliment of every description, that, for eighteen years, he lived upon water alone.

In a still later volume, 1777, is a most interesting and singular case in the person of Janet McLeod. This narrative is minutely detailed by Dr. Mackenzie, confirmed by the parents of the patient and the elder of the parish, and corroborated as to its general truth by the minister of the parish, the sherif-depute, and six other individuals of reputable character. Subject to epileptic paroxysms from the age of 15 to 33, the energies of her system were sapped, the elevator muscles of the eyelids were paralytic, and her mouth was firmly closed by a rigid locked jaw. Entirely confined to her bed, the lower limbs were retracted towards the body; the powers of speech and deglutition were nearly lost; and to the sensation of hunger and thirst, she was a stranger. Periodical discharges of blood from the nostrils, apparently derived from the lungs were her only egestions. During a period of upwards of four years, with the exception of two or three occasions, neither liquids nor solids of any description were swallowed; no, not even the semblance of deglutition could be observed. With a pulse feeble but regular, she mostly lay like an inanimate object; her features had not lost their fulness, nor were her limbs emaciated; the glow of health still lingered on her countenance, and her bosom presented the round and prominent contour of her sex. At the expiration of eight or nine years, during which period Dr. Mackenzie visited her from time to time, he found her condition somewhat improved.

Another remarkable instance, still in the recollection of many, is the noted case of Ann Moore, of Tetbury, who died in 1825. In March, 1807, she first began to confine herself to tea and water alone, having for some time previously gradually limited herself to a small daily portion of bread, in consequence of an increasing obstruction in deglutition; and in the ensuing September, she pretended to abstain from all ingesta, both liquid and solid. According to Dr. Granger, who saw her about two years subsequently, she was now altogether confined to her bed, her pulse feeble and slow, her limbs extremely emaciated, having lately lost the use of her lower extremities, and her nervous system so excitable as to be thrown into convulsions by any sudden surprise; although her voice was moderately strong, and the exercise of conversation was borne without any apparent fatigue.

Suspecting that some deception might be practised by this woman in order to attract visiters, and obtain pecuniary grants, Dr. Henderson, a practitioner of the neighbourhood, published his suspicions in 1813. At length an intelligent committee was arranged, with the consent of the woman, with the view of watching her, in rotation, by night and by day, for an entire month. Thus completely debarred the use of fluids as well as solids, the tenth day found her so extremely debilitated as to be scarcely able to confess her imposition. "On the whole," the committee conclude, in their report of her history, "though this woman is a base impostor with respect to her pretence of *total* abstinence from all food whatever, liquid or solid, yet she can, perhaps, endure the privation of solid food longer than any other person. It is thought by those best acquainted with her, that she existed on a mere trifle, and that from hence came the temptation to say that she did not take any thing. If, therefore, any of her friends could have conveyed a bottle of water to her, unseen by the watch, and she could occasionally have drank out of it, little doubt is entertained that she would have gone through the month's trial with credit. The daughter says that her mother's principal food is tea, and there is reason to believe this to be true." But this opinion presents the case to our view in a more extraordinary light, than we had regarded it previously to the detection of the fraud; for we are now in possession of confirmatory evidence of the assertion, that this woman existed for years upon tea and water alone, articles ordinarily regarded as nearly destitute of nutritious properties.

To explain these extraordinary facts was no easy matter. Our every step is doubtful; we have no clue to guide us through the perplexities of the labyrinth in which we are wandering; no pole-star to direct our course through the unfathomable lake over which hangs shadows, clouds and Cimmerian darkness. Sceptics may laugh and critics may entangle themselves in the bewildering mazes of this subject; but facts speak for themselves; their occurrence, in different countries, has been too frequent, and the narration of many cases too well authenticated, to justify the refusal of our assent.

The opinion may be safely advanced, that in most cases, and probably in all, water, tea, or some other fluid, is absolutely necessary; although Hildanus assures us that Eva Flegen, when he saw her in 1612, had abstained for sixteen years entirely from liquids as well as solids. These cases have occurred equally in health and disease; and it is somewhat remarkable that this abstinence is better borne in the latter than in the former condition. In cases of madness it sometimes occurs, that persons obstinately refuse either to eat or to drink for many weeks, with little apparent loss of bulk or strength. In scirrhous affections of the cardia and œsophagus, in catalepsy, and certain hysterical disorders, a period of fasting may be endured, under which, in opposite circumstances of the system, nature had long since succumbed. This disease, according to the learned Dr. Good, a variety of the genus *limosis*, has generally been induced as a consequence of some pathological action, productive of much pain or uneasiness in deglutition or digestion; has supervened on rigid mortification of the natural feelings and appetites in a course of religious discipline; or has had its origin in that severe abstraction of mind, consequent on intense application of the mental powers. A few instances, however, are recorded in which an instantaneous and unconquerable aversion to food was the first intimation of the disease.

Yet, allowing these persons the free use of water, and all the advantages of air to the skin and lungs, what benefit can we derive from the admission on the principles of our chemical knowledge and physiological experiments. The product of animal life consists, in a great measure, of carbon, which is not contained either in air or water, when in a state of purity. Again, nitrogen is necessary for the animalization of our vegetable ingesta; but granting the position that the carbon may be derived from some secret source, chemistry teaches us that water is equally destitute of these two constituent principles of the animal organization; and the question, whether azote is introduced into the human system by the process of respiration, is still regarded by many as *sub judice*, although the experiments of Dr. Priestly and Sir H. Davy concur in sustaining the affirmative. The absorption of nitrogen by the skin, however, seems to be proven by the concurrent testimony of many experimenters. Hence it might prove no less interesting than useful, to inquire into the action of the skin and lungs in this class of persons. As eleven ounces of solid carbon, according to Lavoisier and Sir H. Davy, are emitted from the lungs of a healthy adult in twenty-four hours, how different might be the issue of such an investigation! An examination into the action of the skin might present results equally unlooked for and surprising.

In endeavouring to elucidate these phenomena, hypothesis has luxuriated in all the rhapsody of her wildest vagaries. The circle of perpetual mutation, a condition imposed on all created matter, it has been supposed, may be suspended. But as physical science has not yet been able to follow up the plastic and fugitive substance, which composes the whole of the visible world, through all its various modifications and combinations, and to fix, in its last shape and character, the ultimate elementary atom, it becomes us to exercise a spirit of modesty and caution rather than expose our ignorance. Among the ancients, earth, air, and water were regarded as elementary principles; but these the experiments of modern chemistry have proved to be compound. As the method of analyzing bodies is constantly being improved, such as are now regarded as compounds, may soon lose their claim to an imperishable existence; even oxygen and nitrogen have already had their throne shaken to the very foundation. And as to those subtle and active agents, caloric, light, electricity and magnetism, all our knowledge is derived from their effects on material substances. Hence, it is not contrary to the dictates of reason, to suppose that the different forms of matter may ultimately be found to be the same in essence, and that from various combinations and modifications of these primordial particles, all the manifold substances in nature proceed. Now as we behold the vitality of worms, insects, fishes, amphibials, birds and mammifers, occasionally supported from the two sources of air and water alone; as we behold the *aërial epidendrum*, on account of the rich beauty of its flower, and the exquisite fragrance it diffuses, suspended in the atmosphere, by silken cords, from the ceilings of oriental rooms, and continuing, from year to year, to put forth new foliage and new flowers, and diffusing new odours; it ought not to be regarded as an extravagant absurdity, to suppose that, subject to the laws of organic chemistry, air and water may be decomposed into their rudimental elements; and that the vital principle may so re-arrange these primal monads, as to find in the new compound the *pabulum vitæ* of the older physiologists.

Westminster, Md. August 10, 1835.

ARTICLE II.

Case of an individual who amputated his Penis and Testicles in a fit of delirium tremens. Communicated in a letter to the Editor, by W. C. McPherson, M.D. of Marietta, Lancaster county, Pa.

A case occurred in the course of my practice a few months ago, the particulars of which I have a wish to give you, and if you think the facts at all worthy of notice, you are at perfect liberty to use them as you may think most proper. It is, I think, a rare case—perhaps no such one is on record. The individual is an Irishman, has for a few years been addicted to habits of excessive intemperance, and has, in the course of that time, been attacked frequently with *mania a potu.* On the 18th day of April last, in a fit of this character, he amputated his *penis*, within half an inch of the base, dissected out the *testicles*, and swept off the whole of the upper part of the *scrotum*—all attached, even the *ligaments* which bind the testicles to the *scrotum* remain. It would seem to me, from the manner of the injury, that he commenced operations at the lower side of the *penis*, (for it is *beautifully skinned* from the base to the tip,) and then run the knife on each side of the testicles, and separated them from their situation in the scrotum, before he made his last sweep. About one half hour after the injury, (and about eight o'clock in the evening,) I was called to see him. I found him exceedingly temulent, and bleeding, though not very profusely at that time. I searched for a long time, but was not able to grasp a single artery; they had all retracted beyond discovery. The cords had also retracted into the abdomen, so as to be beyond reach. You can well imagine my feelings, at this time, young in practice, and doomed to bear the responsibility of so important and singular a case. I conceived my only hope left was to rely on styptic applications, and I accordingly prepared a saturated solution of sulph. of zinc—applied it on folds of linen, and by morning had the satisfaction of finding that the hemorrhage had ceased. These dressings were disturbed as little as possible for several days. Cloths dipped in cold water were constantly applied, and I conceive with much good effect. His temulent symptoms were attended to immediately, but it was not until three days had almost expired that he slept at all. He became so refractory at last, that we were compelled to tie him in bed. After sleeping thirty-six hours, interruptedly to be sure, he awoke a rational being, but not without feelings of disgust, horror and shame. The urethra was kept open by the occasional introduction of the catheter. He never experienced the least difficulty in urinating, nor does he at this time. The wound was treated as a simple ulcer throughout, and I have now the satisfaction of saying that he is *entirely well*, and drunk almost every day. The instrument with which the deed was done was a small bladed penknife, and that very dull too—happily for him, I should think. I have the preparation in my possession, and should be much gratified if I could show it you.

ARTICLE III.

A case of Chorea successfully treated with Fowler's solution of Arsenic. By Robert C. Cumming, M.D. of Frederick county, Maryland.

The embarrassment experienced by the practitioner in the treatment of some of the diseases usually denominated *nervous*, is a matter of frequent complaint, and of this number chorea may be considered one of the most conspicuous. Although high authorities have testified in strong terms, to the almost infallible efficacy of their favourite modes of treating this disease, yet the physician will meet with signal disappointment, who relies with much confidence upon any *particular* plan, until at least its pathology, now unquestionably obscure, shall be better understood. The following case is related, not because of any novel feature it presents, but merely to exemplify the value of an article already favourably known as a remedy in this distressing affection.

Rebecca D. ætat. 14, was attacked on the 7th of April, 1834, with slight convulsive motions of the muscles of the face, arms and legs, which were accompanied with some degree of lassitude and languor. These symptoms continued to increase for about ten days, when I was requested to see her. I found the following symptoms present: All the muscles of voluntary motion were affected, those of the face, neck and extremities particularly; there was an inability to remain for any length of time, in any one position, the spasmodic action being so violent as to turn the patient suddenly and involuntarily, from side to side. The pulse was regular, though somewhat irritable; the tongue covered with a thick yellowish coat. No pain was complained of, except in the lumbar region, with some degree of tension and fulness about the lower part of the abdomen. Her appetite was not impaired, though deglutition was very difficult, and there was an inability to convey food or drink to her mouth; the vocal organs were also so much affected as to render her articulation indistinct. No remission of the symptoms was observable, except during sleep; and of this she enjoyed only about four hours in the twenty-four, when merely slight contractions about the face and neck occurred.

Considering the treatment recommended by Dr. Hamilton as particularly appropriate to this case, I at once commenced the use of purgatives, and continued them steadily and perseveringly for one week, but with an aggravation rather than a diminution of the symptoms. Supposing from the age of the patient, the pain in the lumbar region, &c. that the symptoms might be connected with an effort of nature to produce the menstrual secretion, I now combined emmenagogues with the purgatives, and continued their joint administration for some time longer, but still without lessening the severity of the symptoms. Believing that I had given this plan a fair trial, without deriving benefit from it, I now resolved to institute a tonic course, and forthwith administered some of the preparations of iron, with some of the most efficient vegetable tonics, but yet without any obvious advantage. My attention now was directed to Fowler's arsenical solution, of which I ordered eight drops three times a day, gradually increasing it to fifteen drops. A very material improvement was apparent as soon as the effect of the remedy on the system was manifested by a swelling of the integuments about the face, when it was suspended for some days, and then resumed for a few days longer. In ten or twelve days from the commencement of its exhibition, the symptoms had abated in a considerable degree, and about a week more, established a perfect cure. The patient has never had a return of her malady, and is now in possession of excellent health.

ARTICLE IV.

Cases illustrative of the Therapeutical application of the Bandage.

By J. F. E. Hardy, M. D. of Asheville, North Carolina.

This communication is not intended to offer any new principle, or new mode of practice, to the profession; but to give the result of my experience in the use of the bandage, as proposed by Professor Dudly, in injuries of the extremities. Since I read his article on the use of the bandage, in the last number of the first volume of the Transylvania Journal, I have used it extensively in fractures, lacerations, ulcers, and inflammations of the extremities, and always with satisfaction. Much care is necessary in its application to ensure success, as I have seen it in the hands of well-informed physicians do manifest injury, in cases which I afterwards relieved with the same remedy. With these few preliminary remarks, I confidently offer the following cases to the profession, in proof of its efficacy in my hands. I could adduce many more of a similar character.

Case I.—J. Watkins, aged 13 years, was accidently shot by a man when cleaning the cock of his rifle, at the distance of about three feet from the end of the gun; the rifle carried a large ball, and was loaded with a heavy charge of powder. The ball entered the knee-joint in front of the articulation of the fibula with the tibia; it carried away nearly the whole head of the fibula, tearing up its connections with the the tibia, extensively lacerating its capsular ligament, breaking up the insertion of the biceps cruris muscle, and, as it passed out on the inner side, injuring the bone as low down as the origin of the gastrocnemius internus muscle. I was not called in for nearly two weeks after the accident, but from what I could learn from the family, a considerable amount of the synovial fluid had escaped from the wound. An ignorant old man in the neighbourhood, who makes much ado about his skill, was called on immediately after the accident, and filled up the wound with sugar, camphor, and soot; the latter to stop the blood, and the camphor and sugar to heal up the wound. This produced inflammation, suppuration, and such constitutional symptoms, that I was called to see the lad a distance of thirteen miles. I found him in a most deplorable condition,—his father being a very poor man, he was on an uncomfortable bed spread on the floor, which was laid with loose planks. His constitutional symptoms were, a frequent and small pulse; occasional moisture of the skin; urine more copious than natural; variable appetite, some nausea, frequent chills, and a furred tongue, with the most distressing nervous agitation. The walking as lightly as possible over the loose planks of the floor produced tremors, and caused him to scream out. He slept but little, and had the appearance of rapidly wasting away. I proceeded to examine the wound and on removing the poultices, that the friends had put to it, a large amount of a thin, unhealthy-looking pus, streaked with blood, was discharged. I satisfied myself that the suppuration extended considerably above and below the knee, and that the cavity of the joint itself was considerably involved. Sloughing had not taken place as extensively as I had anticipated, but several fragments of bone had been previously discharged. A medical friend who accompanied me, advised immediate amputation of the thigh. But from the exhausted situation of the patient, and from the ill-condition and unhealthy appearance of the wound, I doubted its success, and proposed the use of the bandage, with bark and wine. My friend advised a blue pill to be given before the use of the bark, which had a good effect in producing a bilious discharge from the bowels, the stools having been previously clay coloured. Linen cloths spread with simple cerate were laid to the sore, and the bandage applied from the toes to the hip as firmly as he could bear it. A large opium pill was prescribed, and I left him for the night.

After ten o'clock, next morning, I visited him again, and found him more tranquil;—that he had slept more than usual, experienced less pain in the knee, and much less of the distressing nervous excitement. We then put him on a free use of the bark and wine, with a moderately rich diet, consisting of soup, panada, with wine, &c. Every third day I re-applied the bandage, and increased its firmness. Under this treatment he gradually improved, and was able to walk on his crutches, at the end of four weeks, with a partial anchylosis. He walks now without the aid even of a stick, and is able to plough, or do any work requiring no great muscular exertion.

Case II.—Miss Sails, a hearty country girl, fourteen years old, accustomed to labour, was pricked with a lancet in several places on the back of the hand, (by an old man who could not see well,) for the purpose of abstracting blood to relieve headache. She experienced no particular pain at the moment, but next day, being engaged at the wash-tub, handling bed-clothes, which were heavy, and required great exertion of the hands to wash them, she was attacked at night with a pain in the hand, which extended up to the elbow. It was sufficiently severe to keep her from sleeping soundly that night, and next morning she discovered some swelling of the hand, and a purple discolouration around the punctures made by the lancet. The pain increased, and the swelling extended up the arm to the shoulder joint. She became alarmed, and sent for the same 'knowing old man,' who commenced poulticing it with fresh *cow dung!* (which is a sovereign application with many persons in this country.) This he kept up for ten days; at the expiration of which time I was sent for to amputate the arm. My friend, Dr. Osborn, accompanied me, and we found the limb enormously swollen to the shoulder. The fore-arm and hand presented a curious appearance; its size was three times that of the other; the fingers were so swollen that each one stood out firmly and distinct, without the power of flexion to any considerable degree. The hand and fore-arm were covered with blisters of a livid appearance, some of which had broken, and were discharging a thin purple sanies. She was suffering much pain in the arm of rather a peculiar kind: it was not constant, but occasionally lancinating, shooting from the hand to the elbow, and left a burning sensation, as if hot water had been thrown over it. She complained a good deal from handling the arm, but no evidence of fluctuation could be discovered by the touch, although as we afterwards ascertained, a large quantity of pus had formed. Her constitution suffered considerably. She was feverish, unable to sleep, without appetite, her bowels constipated, and she experienced occasional chills. We soon satisfied ourselves that, if amputation was resorted to, it must be at the shoulder joint; and we were not anxious to undertake so formidable an operation, as neither of us were graduates at that time. As the use of the arm was of the utmost importance to her, being poor, and compelled to work for a living, we resolved to attempt to save the limb by the use of the bandage, which we immediately proceeded to apply. The hand was covered over with lint spread with simple cerate, to prevent the bandage adhering to the small ulcer at each orifice. We then applied the bandage firmly and carefully from the fingers to the shoulder joint. She complained a great deal during its application; but we gave her fifty drops of laudanum, and left her for the night, having some other patients to visit.

At nine o'clock, next morning, we saw her again, and found her perfectly easy, but said she had spent a dreadful night; had slept none until five o'clock in the morning. She had experienced so much pain, that about four o'clock she removed the bandage from part of the hand. As soon as it was loosened, matter gushed out from between each finger, after which she became easy and slept until we saw her. On examination, we found the bandage loose and requiring to be re-adjusted. After we had removed it, we found that the limb had decreased very much in size, owing to the large amount of matter discharged. The bandage was then re-applied more firmly, and she suffered much less during the operation this time than on the previous occasion. We continued to re-apply it daily for ten days; then three times a week for two weeks, when we dismissed her cured. This was the only treatment she received, save a few doses of salts, with infusion of senna. The use of that hand and arm is now as perfect as it had ever been.

Case III.—D. H. a single woman, aged about 40, very fleshy, weighing near two hundred pounds, in stepping incautiously from a height of three feet, received her whole weight on the external part of the right foot. The distance, together with her immense weight, dislocated the ankle, and fractured the fibula about its mid-way. Being only two miles from the place at which the accident occurred, I saw her very soon afterwards. I found the ankle dislocated, the malleolus internus broken off, and the external malleolus projecting some distance through the skin. The foot was completely turned up, and reposing on the inner part of the leg. As she sunk to the ground, her body inclined to the right side, with the right leg across a stone with a sharp projection, which penetrated the soft parts, and fractured the fibula about its middle. Here we had a compound dislocation and a fracture of the ankle joint, and a compound fracture of the small bone of the same leg. I proceeded immediately to replace the foot and adjust the fracture, which was accomplished in a few moments by the ordinary means. From the success I had previously experienced in the use of the bandage, I determined to give it a trial in this important case. I first applied adhesive strips to the external wound, then the bandage (of thin calico) soaked in vinegar and water, which was adjusted firmly from the toes to the knee. Over this were laid strips of paste board, soaked in vinegar and water, which were confined by the roller brought down over the limb again from the knee to the toes, giving it some careful turns about the ankle to keep the fractured process in its place. The first dressing remained on three days; after which, for two weeks, I applied it every other day;—then for the next four weeks, twice a week, at which time she was able to walk with an ordinary cane. She is now perfectly well, and does not even limp. This constituted the whole treatment, save v. s. twice, and a few doses of salts.

Case IV.—Mrs. Bartlett, aged 25 years, a small and very delicate woman, having only a few months recovered from a protracted attack of phlegmasia dolens. She walked out one afternoon last winter, with her child in her arms, to see her husband, who was clearing ground, and having reached the field, being much fatigued, she seated herself on a log, within the length of a pine tree which two young men were cutting down. A few moments after she had taken her seat, one of them told her to move quickly, that the tree would fall in that direction. At that moment the tree began to fall, the cracking of which, and the falling towards her, confused the woman so much, that she fell over the log on which she sat, the right leg remaining on the log, with the outer part upwards. In that situation the tree caught it, the log protecting the body and her child. A projection on the body of the tree (a pine knot) came in contact with the leg about midway, passing through the bones and soft parts, crushing the former for several inches, completely transfixing the limb, and pinning it to the log beneath. A limb of the tree struck the same leg just below the knee-joint, producing a compound fracture of that point. The fracture of the bone, and the injury of the soft parts being transverse, the wound gaped so much that I could perceive the superior end of the bone elevated above the inferior. The muscles had been so much lacerated and torn by the pine knot, that they were hanging out in shreds at the external wound.

The messenger who came for me, informed me that Mrs. B. had broken her leg, and wished me to attend to it. Supposing it a simple fracture of the leg, I only took with me a bandage, and some pasteboard for splints. When I arrived they had moved her to the house, where I had her laid on a table, and was not a little embarrassed when I exposed the limb, and found it in this lacerated condition, without any aid save the ignorant people of the neighbourhood, and no means with me for amputation, which I considered at that moment indispensable. It being near night, I resolved to dress the limb with the bandage, and wait the morrow for operating. I was compelled to use six stiches before I could keep the lacerated muscles within the wound. Having no surgeon's needle with me, I used an ordinary large sewing needle. I placed the limb in the hands of three men, and proceeded to adjust the parts and apply the dressing. The muscles were so much torn, that it required no great exertion to overcome their action. Adhesive strips were first laid over the wound, and the bandage firmly applied from the toes half way up the thigh; pasteboard strips soaked in vinegar and water were next applied, and the bandage brought down over them and terminated at the toes.—A thin board, slightly padded, was placed under the leg, extending from the heel half way up the thigh.

With this dressing I had her put to bed, and ordered 50 drops of laudanum. Fearing that hemorrhage might take place during the night, I selected the most intelligent person present, and directed him to place a bandage around the thigh with a compress over the femoral artery, and to pass a short stick beneath it, so that if bleeding came on, he could twist the bandage until the hemorrhage ceased. With these directions I left her for the night.

Next morning I visited her early, in company with Dr. Baird. We took with us a case of amputating instruments, expecting to be obliged to remove the limb. When we arrived, we found her more comfortable than we had expected. No bleeding had taken place, and she had slept some. Finding her so much more comfortable than I had anticipated, I resolved to allow the dressing to remain on a few days, and if possible, to save the leg, which, in her poor condition in life, was of more than ordinary value. We visited her daily, and at the end of the third day, I proceeded to remove the dressings. To save the pain and trouble of moving her to the table, I had the foot board of the bed taken out, and with several assistants, raised her in the sheet, and moved her down over the foot of the bed, until the upper end of the board, I had placed under the limb, rested on the foot board, which served to support the leg. When I had removed all the dressings, the fracture was so extensive, that it was with difficulty we could hold the leg firmly enough to re-dress it. The edges of the wound looked healthy, and had commenced mattering. We now laid over the wound, cloths spread with simple cerate, and re-applied the bandage as before, which was continued every three days for six weeks. The suppuration was very inconsiderable; and as the bandage had kept the parts in close contact, union, by the first intention, took place throughout nearly the whole extent. This mode of dressing for compound fractures is very opposite to those laid down by authors generally. My experience proves, that most of the fears in dressing compound fractures are groundless, and that these injuries recover sooner, and with less suppuration, when treated with the simple roller, than with the various complicated, and to the young practitioner, (particularly of the country,) perplexing apparatus described in the books. Our patient continued to improve; and at the end of eight weeks, was able to be up on her crutches. There is an inconsiderable shortening of the limb, and a slight inability to flex the knee-joint, which is improving. I am at a loss to know whether the stiffness was occasioned by the fracture near the joint, or the laceration of the muscles. She took a few doses of salts and senna, and afterwards, bark and wine, for two weeks. We have the satisfaction of knowing that, by our perseverance and attention, we saved this poor woman her leg. This case occurred in February, when the ground was constantly covered with snow, and the thermometer averaging from 6° below 0, to 10° above. The family was extremely poor, living in a small open log cabin, without any of the comforts, and almost without the necessaries of life.

Asheville, July 20, 1835.

ARTICLE V.

Observations to disprove the Identity of the Gonorrhœal and Syphilitic Virus. By NATHANIEL POTTER, M.D. Professor of Pathology and the Practice of Medicine in the University of Maryland.

DEAR SIR,—I perceive in your Archives for January last, that the celebrated Professor Hufeland has revived the doctrine of the identity of the matter of gonorrhœa and syphilis. This question was warmly agitated forty years ago, and I had entertained the opinion that it had been definitively settled in the negative, and the doctrine exploded.

In the winter of 1794–5, I made an attempt, in conjunction with my friend, the late Doctor Samuel Cooper, (at that time a house pupil of the Pennsylvania hospital,) to liquidate the controversy by experiment. The notes were retained in the possession of the doctor for publication, and after his untimely and lamented death, fell into my hands. Many of those experiments were repeated in 1801, by Doctor James Tongue, of this state, who performed several others which, with those we had made, I deemed conclusive, and the subject ceased to excite much interest.

We propose to offer (with due deference) our reflections at this late period of the controversy, and invite those with whom we have the misfortune to differ, to examine our reasoning and the results of our experiments impartially, and to offer such reflections as they may deem suitable illustrations of the matter in dispute.

We propose to treat the subject both synthetically and analytically, with the intention of showing the remarkable coincidence between accurate observation and all the experiments that have been rightly conceived and fairly conducted. By pursuing this course, we may, perhaps, account for the various and contradictory opinions that have been propagated on the pathology and practice in the venereal disease. With the origin and chronology of either of the varieties, we have nothing to do in this place, although it would not be difficult to establish by history the remotest antiquity of both, which have probably existed almost as long as there have been men and women in the world.

Unless we are egregiously deceived, the doctrine of identity which we controvert, has been the principal cause of the mystery that still surrounds the whole subject, as well the pathology as the treatment. The prevalence of this cardinal error seems to have vitiated both the theory and practice.

We are well aware that there are some from whom it is unsafe to differ in such a discussion, but we are as well assured that great names sometimes impose great errors, and that they are the most difficult to eradicate.

We are constrained to admit, that objections may be raised to any mode of investigation we can adopt, but they would lie with equal force against any that could be conceived in pursuing the nature of any other contagion. If it be required for us to demonstrate the elementary principles, or to show whether a contagious matter is simple or compound, we acknowledge it cannot be demonstrated, and we denominate it specific, because we are unacquainted with its real essence, and because we see each and every one produces a train of symptoms in sui generis according to its peculiar nature.

Nevertheless, this mathematical precision is not necessary to our purpose; we judge with sufficient precision from the phenomena they produce. Let it be admitted that we could render all the essential qualities of animal poisons cognizable by chemical analysis, it does not follow necessarily that we would reflect the least light on the peculiar influence they exert on the nerves.

For many ages, while pathology had scarcely any fixed principles, all diseases arising from sexual intercourse, were classed under the generic appellation, venereal. Hence, we find it was not till the seventeenth century, that a difference between syphilis and gonorrhœa was made a serious question. The opinion that they are distinct essences was never gravely promulgated, till it was done by Mr. John Hunter, who seems never to have been entirely satisfied, though he determined in favour of a plurality of poisons.

In examining the arguments in favour of the opposite sect, we will notice those who have made the principal figure. A large majority of the German and French faculty are enlisted in favour of identity, while the British and American doctors are arrayed in the opposition, with but few exceptions.

We are not aware that any theory or experiments have been promulgated different from those contained in the writings of Swediaur, Hunter, Wallace, and Hufeland. They all profess to have derived their theories from experience; and although many of the facts they have stated are true, as they stand insulated, they have been sophisticated by false theory, and are therefore deceptive.

In his essay on this subject to make out his issue, Mr. Hunter does not seem to have been inspired by his usual powers of discrimination. The felicity of his reasoning seem to have failed. He predicates his first proposition upon a historical question, which is still not only unadjusted, but the authorities contradict each other. The manner in which the disease was introduced into the islands of the South Sea, is relied on by Mr. Hunter to prove that it was the gonorrhœa that first appeared there, and that, consequently, the form of chancre or real syphilis proceeded from it. He derives his opinion from captains Cook, Wallis, and Bourgoinville, who admit the existence of the diseases there, while neither of them draw the line of demarcation between the two varieties; nor do they insinuate that either appeared prior to the other. Nor can there be found in any authority, historical or medical, a fact to authorize the premises he has assumed. He attempts to fortify his reasoning by another argument that is altogether speculative, and is repugnant to all our modern opinions in pathology, to our doctrines of the action of animal poisons, and the most recent and fairest experiments. From the general tenor of his reasoning, we can but conclude that he ascribes the difference in the secretions of gonorrhœa and syphilis entirely to the difference in the organization of the parts secreting them. If this were a well-founded hypothesis, their respective qualities would be different; but when we find, by experience as well as experiment, that the matter of chancre always occasions chancre into whatsoever texture it is inserted, even in the urethra, the seat of gonorrhœa, (as will be demonstrated by experiment,) we are obliged to dissent. And in accordance with this fact, the matter of gonorrhœa can never be made to produce a chancre. It is not the organization of the part that modifies the inflammation, but the specific character of the virus. It may produce a different ostensible form, but the substance will be the same. In accordance with this fact, we see the matter of chancre will maintain its specific properties as long as it has an existence. It invades in all the forms of which the soft solids are susceptible. The mucous surfaces, sometimes the cellular membrane, the absorbents, glands, muscles, tendons, and even the bones, none of which can be affected by gonorrhœa by any human contrivance, and impart nothing but syphilis. If the different organs do present different diseased appearances under the operation of the same poison, they still preserve their specific character. An ulcer on the prepuce differs in aspect from one in the skin or in the throat, but they all maintain their essential character, and communicate the same disease. We do not know that the effects of the syphilitic virus have ever been displayed in the muscular texture of the heart, in the lungs, stomach, liver, pancreas, kidneys or intestines, but it is not ascertained that they could not be directly affected by inoculation. On the contrary, it is more probable, that if the matter of syphilis could be introduced directly by inoculation into any of these organs, syphilis would be the consequence. We only contend, it does not get there indirectly through the absorbents. If the gonorrhœal poison can originate all the ravages of the syphilitic virus in all the distant organisms we find it, it may affect the fœtus in utero, through the fluids of its progenitors, a phenomenon which can only be traced to an original syphilitic origin.

The simultaneous appearances of the two forms, or the occurrence of either after the other, on which Mr. Hunter relies to sustain his principle, will be shown to be superficial and sophistical, when we explain the manner in which the disease has been contracted in all such cases.

Swediaur urges no special plea for the doctrine of identity. He assumes it as an acknowledged fact, and fancies that there are two kinds of gonorrhœal discharge from the urethra, one of which is virulent and syphilitic, and the other simple mucus, which is innocent. This is a strange anomaly in pathology. The excitement of simple mucus from the lacunæ within the glands is not a disease, and therefore has no specific property. Gonorrhœa consists in a poison and propagates its own similitude, and can impart no other disease. This poison has a specific attraction for the mucous surface of the urethra, and is drawn into the orifice by the subsidence of the erectores muscles after coition. The matter of chancre is more tenacious, and is received upon the external parts, the glans penis, prepuce or labia, and even where it is arrested at the orifice of the urethra, it occasions a chancre, and never extends to the upper part of the canal, unless it be by artificial means, and, if long retained there, does not produce gonorrhœa, but a genuine chancre.

Wallace proceeds altogether on analogical ground, and is so indefinite that his reasoning can scarcely be reduced to a tangible shape. Because the virus of small-pox and the vaccine are sometimes followed by undefined and anomalous appearances, he presumes that syphilis may occasion as great a variety, unaccountable and illy defined. The analogy of the variolous virus is as unfortunate and inappropriate an example as could have been selected from the catalogue of contagions. No poison can be more absolute and immutable in its progress. It maintains its virulence and contagious property in all its possible forms and combinations, and by whatsoever name it may be called, or appearance it may assume, it never fails to multiply, and is identified with its original. The author ascribes all the dermoid anomalies in vaccination to the quality of the virus, instead of the predisposing condition of the skin. It is the condition of the subject, and not the contagion; for no principle is better established, than that which is familiar to all inoculators, that the same matter will impart a fair and undisguised eruption to one, and all the vagaries and spurious eccentricities of the skin to others. The various appetencies of bodies cannot always be foreseen, and as to the analogy drawn from the vaccine virus it is scarcely worthy a serious reflection. It is, viewing it in the most favourable light, but a fig-leaf covering against variolous contagion. So far is it from holding a rank in power with the prophylactic powers of the small-pox, that it does not effectually protect eight of any ten who are vaccinated. While the small-pox asserts its prerogative, and enters into alliance with no power, the more feeble and almost impotent character of the vaccine virus, enters into co-partnership with many of the dermoid family, and vitiates the whole scheme of protection in theory and practice. In all bodies in health, with no organism embarrassed by any other cause, all agents proceed in their operations to produce simple and clearly defined effects, although they may differ in degree. This principle does not attach more exclusively to any animal poison than that of gonorrhœa and syphilis. In none are their distinctive characters more perspicuously displayed. This position will not be deemed visionary or extravagant when we shall have detailed certain experiments.

Professor Hufeland, so well known as a veteran in the fields of physiology and pathology, is the last we recognize as an abettor of the doctrine of the identity of the two poisons.

From one so justly celebrated, we anticipated the disclosure of some new principle or experiment. A fair analysis of his doctrine will evince our disappointment and regret. Hufeland predicates his theory upon three distinct propositions.

1. "*Two individuals may be infected by one person. The one may have gonorrhœa, and the other chancre.*" This proposition has been relied on by every one who has contended for the same doctrine, and will be refuted by the reasoning and experiments we propose to bestow on them generally.

2. "*The same cause—Persons infected with gonorrhœa may communicate syphilis to another, or infect himself with that disease.*" This is only a part of the first proposition reversed, to force it to work vice-versa: because, if we identify the two secretions, there can be no reason why either of them should not produce the other. The difficulty in which the doctor has involved himself will be explained on a different principle; by the mode in which both the contagions are contracted. The second part of the proposition inculcates a sophism, which is a kindred error to the other, inasmuch as it adheres to the principle, that because the matter of gonorrhœa is syphilitic, it maintains all its contagious properties in all other tissues to which it may be distributed. One error almost always begets another. "*Gonorrhœal matter introduced into the eye* may give rise to a venereal *ophthalmia.*" The epithet venereal is here employed in a sense synonomous with the other epithet syphilitic; and is one of the concatenated train of errors, predicated upon its great original, identity. That affection of the eye which originates from the actual contact of gonorrhœal matter, produces a disease of the mucous membrane of the eyelid only, in the first instance, and although it sometimes implicates the adjacent parts, and runs into a high degree of inflammation, is gonorrhœa still, and the secreted matter, however virulent, will not inoculate a chancre. We have made six attempts to excite a chancre, by this matter, but neither chancre, or even common inflammation, could be produced. The glans penis, prepuce and arm have been severally essayed in vain. The secretion from the eye nevertheless falls

in with our views, and is the most conclusive evidence of the diametrical opposite character of the two poisons. In two of three patients who were subjected to the test of the ophthalmic secretion through the urethra, genuine gonorrhœa was produced. The third could not be infected: but the experiment ended in a triumphant vindication of the doctrine of diversity. One of the subjects inoculated from the eye of the first through the urethra communicated a clap to a woman, and it was of a very virulent degree.

If the professor intends to comprehend, in the general expression, "*venereal ophthalmia*," iritis, which the looseness of his phraseology leaves doubtful, his doctrine ought to have been better defined, for although the iris may be concerned in gonorrhœal ophthalmia, (although we have never seen it, after forty-five years practice,) his opinion may lead to a dangerous and destructive practice. When we speak of venereal iritis, we intend to convey the impression that it is syphilitic, and not gonorrhœal, and we are sustained in the opinion by our experience in practice. We do not assert that a gonorrhœal ophthalmia cannot be cured by mercury, but we and all experienced physicians are well assured that it is not the appropriate remedy. On the contrary, syphilitic iritis is cured by mercury like all other syphilitic affections, and it is not certain we can effect a cure without it. There cannot be a greater paradox.

The third part of the same proposition follows necessarily from the two preceding. "*Gonorrhœa too suddenly suppressed may be followed by bubo, chancre or condyloma.*" Here the same strain of illogical deductions pursues him under the pressure of the primary error, and as the premises are unfounded, the conclusion cannot be true. As far as the accidental appearance of bubo is connected with gonorrhœa, it is known to arise from sympathy or an extension of inflammation from the urethra, and is never syphilitic. It cannot be arrested in its progress by mercury, but is always aggravated and more likely to suppurate. If, during the existence of gonorrhœa, a syphilitic bubo appears, it is from a chancre or the matter of chancre taken up without a local affection. This can only be cured with certainty by mercury. If a gonorrhœal bubo suppurate, the poison will not inoculate a chancre, nor any other disease different from the effects of pus taken from a common phlegmon. From a syphilitic bubo it communicates a chancre. We feel assured these results can be no secret to any person conversant with venereal practice. We have performed these experiments time after time, with both the secretions, and in practice proceed without hazarding an hypothesis, in which alone our antagonists have erected the whole superstructure of their doctrines.

The fourth item of this proposition would not be noticed, were it not that we desire to avoid the imputation of partiality and disrespect. Fluor Albus: "*Daily experience shews, that the fluor of the female, which supplies the place of gonorrhœa, is capable of communicating syphilis.*"

It would be superfluous to criticize such a sentiment at this enlightened period of medical science, as it is notorious that lucorrhœa arises from a different source, is not contagious, and is no more communicable than a catarrh or any other mucous secretion.

The third proposition is altogether original, but no less sophistical than those we have examined. It is unsupported by experience, as every other must be that is repugnant to a law of pathology. It is one of those physical impossibilities which abhors all the rules of right reason, and carries the conviction of its futility on its face.

"*The difference between the virus of the two affections, is, that that of gonorrhœa is incorporated as it were with the mucous secretion, and acquires thereby a milder character, so that it may lose its infectious quality. It is besides thrown off with the mucous secretion.*"

The answer to the first part of this dogma would be a refutation of the whole proposition. That there is a mucous secretion formed in the urethra in health which lubricates its surface, is admitted, but it is natural and so bland that it never irritates until it is changed and contaminated by something extraneous and unnatural. The moment a poison excites an action in the mucous vessels, the natural secretion ceases, and a new one is formed; and therefore, there can be no commixture of mucous and poison, unless there are two sets of secreting vessels, or the same vessels can take on two secreting processes at the same time. The act of secretion is performed by the arteries; and once the gonorrhœal action is produced, every particle of matter secreted is as genuine as at any subsequent period; and although it may be diluted, will propagate its own similitude, till the action that formed it is changed by destroying the morbid process. We have injected the matter of gonorrhœa in its incipient scarcely formed state, and considerably diluted in all its stages, and still gonorrhœa was invariably the consequence. Does not this correspond with all our experience in the effect of all other contagions that are not too äerial to be made palpable? Do not the virus of small-pox and the vaccine produce the same actions in all their progress, from the slightest vesicular to their ultimate state of secretion?

The second part of this proposition has been substantially refuted, but, we may add, his own words in fortification, if he can derive any from them.

"*The virus of chancre, on the contrary, is more active and corrosive, for the same reason that corrosive sublimate, or any other poison, is more energetic than when enveloped in mucus.*"

This position is too loose even for the base of an hypothesis. If it were true, it would be easy to confirm it by a simple experiment. The virus of chancre diluted must of necessity communicate gonorrhœa, which never could be effected, but invariably a chancre, if any thing. As to the analogy between corrosive sublimate and the matter of syphilis, or any other animal poison, the learned professor will labour in vain to run a parallel between them. Chemistry may torture animal matter by heat, re-agents, and all the processes that ingenuity can devise, till it is annihilated, and it cannot form the bichloride of mercury, nor can it by a synthetic operation, make blood or any of the secretions from it. The laws of living animal matter are separated from finite art, by infinite wisdom, and although they may be imitated, can never be reached.

Let us now test the question by the best lights of experience. Facts are abundant, and if fairly construed, will not leave a ray of doubt to which side the scale preponderates.

Of all the arguments that have been advanced in favour of the theory of identity, the simultaneous appearance or the immediate succession of one to the other varieties has been most implicitly relied on. Our opponents have availed themselves of this plea without the suspicion of sophistry. Their premises are specious in a prima facia view. The facts stated are true as far as they are detailed. They have told the truth, but not the whole truth.

There are innumerable examples of the secondary symptoms of syphilis while the patient is labouring under gonorrhœa. There are many who are affected by both at the same time, and as many in whom either of them succeeds to the other, but are either of these accidents sufficient to account for all such cases in the principle of identity? Many have drawn such conclusions, who never investigated the origin of either; and we find others who have analyzed all the circumstances from which it was physically impossible, that the two affections could have been derived from the same affection, whose pride of opinion would not permit them magnanimously to renounce the prejudices of education.

The several accidents that lead to such deceptive appearances and false experience, may be reduced to the following heads:

1. A connection with one labouring under both gonorrhœa and syphilis, communicates both diseases; and as both do not appear exactly at the same time, the second is charged to the first, and thus, by this superficial reasoning, they are placed in the relation of cause and effect, although there are two diseases specifically different from two essentially different poisons. We have traced this error to its source, and have demonstrated and have ascertained by ocular inspection, that the two causes always did exist or had been in operation, or in another mode which we are about to describe.

2. A gonorrhœa or chancre is received singly, and soon after the other form appears, and the patient has been concerned with more than one person who may have had either, he concludes that the first occasioned the second. He does not understand the rationale, because he draws his conclusions from premises which are partial. It is no matter of surprise that an unlettered man should reason in this way, but there is not the same apology for men of science who have drawn a conclusion that violates the laws of pathology, and leads to an unsuccessful and mischievous practice.

3. There is another and more mysterious occurrence that is not uncommon, utterly inexplicable by a superficial observer, for which there is some extenuation even for physicians. A patient has been exposed with one who has a chancre, and at some period not very distant, he finds a bubo forming, or his throat affected with soreness, an erisypelatus redness, or his skin affected with copper-coloured blotches or other secondary symptoms of syphilis. If such a man labour under gonorrhœa, or has been cured some years before, he does not think of ascribing them to any other cause; nor can you convince him of his error, though his hypothesis, and perhaps that of his physician, is contrary to a law of nature. It was not known to physicians till lately, that the matter of chancre could be absorbed and occasion all those secondary consequences. This is one of the most deceptive and dangerous states of syphilis, because it sometimes passes the inguinal glands which although they are good sentinels, sometimes sleep, and the enemy enters the citadel unperceived and unsuspected.

We have seen all the consequences of syphilis contracted in this way, although no affection of the prepuce or glans penis had preceded them. Like the fountain of Arethusa, it sinks beneath the surface in one region only to break out in another.

All these secondary or ternary affections bear the distinctive marks of genuine syphilis, and are recognized by skilful optics in whatsoever aspect they appear, and cannot be safely confided to any remedy but mercury. What then becomes of the theory of identity? If those appearances, to which alone we give the appellation syphilis, originate from gonorrhœa, why do we not treat it and all its consequences by mercury? If the votaries of this doctrine preserve consistency, they are bound on their own principles to rely on it as we do, almost to the exclusion of other remedial agents. None of them will attempt to cure a gonorrhœa, or any of its consequences, by any preparation of mercury, locally or generally administered. Uniform experience has rejected the practice, and it has been exploded by general consent. Although mercury is justly entitled to all the reputation it has acquired in certain conditions of other mucous membranes, it either does not cure or aggravates gonorrhœa, and all its consequences, and nothing more firmly supports the doctrine of the independent and specific nature of the gonorrhœal poison.

What are the consequences of gonorrhœa? How are they most effectually cured? Chorde, sympathetic bubo, inflamed prostate gland, inflammation of the neck of the bladder, gleet and stricture,—in these there is nothing specific; the contagious secretion is formed in the urethra, and sometimes in the prepuce, but none of the other affections are contagious; they consist in inflammation alone, and therefore cannot be removed by mercury, which often exasperates them. The appropriate remedies for gonorrhœa and all its consequences make no favourable impression upon syphilis in any of its varieties. They are altogether expletives.

Although the facts and arguments we have stated appear to us conclusive, lest there should be some too fastidious to be satisfied, we will descend to a more analytical examination. We do not propose to detail all the particulars of the experiments on which we rely, but such as bear directly on the question. Some of them were performed by the late Dr. Samuel Cooper and myself, at the Pennsylvania hospital, in the winter of 1795. Others may be found in the Inaugural Dissertation of Dr. James Congee, of Maryland, who graduated in the University of Pennsylvania in 1801.

To ascertain whether the matter of gonorrhœa would excite a chancre, or produce any other effect, Dr. Cooper and I inoculated ourselves with the matter of a virulent gonorrhœa, in the arm, and no effect could be perceived, but from the puncture, and this disappeared like any other mechanical irritation. This experiment was performed on two other persons and with a similar result. This was the result also in the case of Dr. Tongue himself, who was inoculated by Dr. Barton, who repeated the experiment a little varied. He used a portion of gonorrhœal matter mixed with calomel, but without effect.

Dr. Cooper's and my experiments, with those of Dr. Tongue, unite in establishing the fact, that gonorrhœal matter injected into the urethra, alone, or with mercury mixed, invariably produces gonorrhœa, unless it is washed off by the urine. We performed this experiment seven times, and the disease was produced in six of them. With calomel, and with the bichloride, its effects are not varied, nor with any other commixture that we are acquainted with. These experiments were confirmed by me, in 1807, to remove the scruples of my colleague, Dr. James Cocke, and with his assistance.

Although we might draw the conclusion from those experiments, and from the mode in which a chancre is contracted, that there is a difference between the two poisons, it would be only presumptive, and therefore we instituted another series, with the matter of syphilis, directly. Dr. Cooper took the matter from a chancre that had been in the venereal ward four days, under mild mercurial treatment, and had appeared three days previous to admission, and introduced it into the arm of one of our fellow students. It began to inflame on the evening of the fifth day, and on the seventh there could be no doubt that it was a genuine chancre. From this, on the eighth day, matter was introduced into the arm of another patient who had recently recovered from acute rheumatism. A chancre was formed in the usual time and perfect in form. The patient was prevailed on to take no medicine to arrest its progress till the fourteenth day, when he complained of tension and pain in his right groin, and a mercurial course was instituted, the chancre cured and the inguinal tumour resolved. This experiment was repeated four times during the winter, and was confirmed by Dr. Tongue.

"He inoculated his fellow student, Mr. Wootton, in the arm, with matter taken from a chancre an hour before it was inserted. The part inflamed gradually, and in four days a complete chancre was formed. Having satisfied himself that the poisonous quality of gonorrhœal matter could not be destroyed or even mitigated by any commixture of mercury, he took matter from the chancre from which he made the last experiment, and mixed it with an equal quantity of calomel, and inserted it into Dr. Wootton's left arm. No chancre or other disease followed.

Dr. Tongue then inoculated himself with a portion of the matter of a chancre which had communicated the disease to two persons. It was mixed with a solution of the bichloride of mercury; one scruple to an ounce of water—No chancre.

Another portion of the matter was mixed with a solution of gum Arabic, introduced into the arm, and a chancre was the consequence. From these experiments Dr. Tongue drew the conclusion, that mercury is endowed with specific properties, and that it is an antidote to the syphilitic virus, whether applied directly to the matter, out of the body, or taken into it through the absorbents. Although we were inclined to this opinion many years before, my lamented colleague, Dr. James Cocke, advised me to repeat Dr. Tongue's experiments in 1808, and by his assistance we were occupied occasionally during the summer. Having finished them with great care, trouble and patience, we confirmed the results of Dr. Tongue's labours.

The impression that there is an anti-syphilitic property in mercury, by direct mixture, is not altogether novel. Dr. Cullen, in his Materia Medica, under the article mercury, relates the following experiment. "A physician took a quantity of matter from a venereal chancre, and mixing it with a quantity of Plenk's gummy solution of mercury, applied the mixture to a sound person, but could not find that it produced chancre or any other syphilitic symptom." Dr. Cullen thought it probable that the gummy solution might render the mercury inert.

The following experiment was made to ascertain whether there was any foundation for the doctor's conjecture. "Dr. Tongue inoculated a person with pure venereal matter, mixed with an equal quantity of a solution of gum Arabic, in the proportion of two drachms of gum to eight ounces of water. It did not prevent a chancre from being formed."

The following experiment is reported by Swediaur. "Doctor Harrison took the matter of an ulcer evidently syphilitic, and after having triturated it with the gummy oxyde of mercury, he tried to inoculate for syphilis with the mixture. No infection was communicated. Some of the same matter, not being mixed, produced a chancre."

We cannot assert unequivocally that there is no other agent that will, when mixed with the matter of chancre, render it inert. Mercury is the only one we have been able to discover. Doctor Tongue inoculated a man with an equal portion of the virus of chancre and a solution of the sulphate of copper, one scruple to the ounce of water. A chancre was the consequence. A similar result followed with a solution of the sulphate of iron, with the like proportion of both.

Notwithstanding the conclusion from these experiments would seem to be irresistible, there still remained one other that ought to be tried, as it would, if it should terminate like those already reported, leave no subterfuge or retreat for the advocates of identity. This last experiment becomes necessary, from the disposition in our antagonists to cover their opinions under the hypothesis of Mr. John Hunter: 'the difference of organization between the urethra and glans penis, with the prepuce and some other parts.

On the 9th of December, 1808, Doctor Cocke made the following experiment, at my request.

Having procured a healthy subject who agreed to any measure we might choose to adopt, we took a portion of matter from a chancre, which was mixed with a tea-spoonful of tepid water. At nine o'clock at night we emptied the urinary bladder, first, by causing him to discharge his urine, and secondly, drawing off the remainder by the catheter. We then gave him two grains of opium, with a request that he should retain his urine till our next visit, if practicable. We saw him at eight o'clock the next morning, before the discharge of his urine, which occasioned no inconvenience. At the same time of night, on the tenth, the experiment was repeated, in the form it had been performed before. On the morning of the eleventh our subject passed urine about six o'clock, and as he felt no change, told us he thought we had done nothing. As we considered two such essays sufficient to impart the disease, we kept the patient under our observation till the fourteenth, when he came to me and complained of an itching about three inches from the orifice of the urethra. This sensation increased, till at the end of three days it became exquisitely sensitive and painful, especially when it was irritated by the passage of urine.

As our subject had now become our patient, we ordered an opiate at night to mitigate his pain, which was excessively troublesome. On the evening of the third day from the first symptoms, we observed a small weeping from the urethra, which was tenacious, and of a semi-purulent tendency, though it was occasionally slightly streaked with blood. The ardor urinæ and pain seemed to be confined to a small spot, neither being propagated along the canal, either way, but confined to the original place of contact. The secretion never became copious, and maintained the same appearance, totally different from the matter of gonorrhœa in either of its stages. It was much less in quantity, more tenacious, and was not accompanied by any tenderness, or sense of disease between the seat of the pain and the orifice of the urethra; nor was there any soreness or tension in the glans penis. It was only by pressure that any discharge could be effected, except in the morning after the patient had slept many hours. We permitted these symptoms to continue uninterrupted four days longer, and as we now concluded that a chancre had formed in the urethra, we instituted a mercurial course, which seemed to make no impression upon the symptoms, for twelve or thirteen days, although the protoxide of mercury and inunction were faithfully employed. The pain gradually diminished, and finally subsided at the end of twenty-seven days, when the salivary glands were evidently affected, though the ptyalism was not profuse. The protracted cure in this case was probably to be attributed to the irritation of the urine passing over a sensitive diseased surface. This is often to be observed in the treatment of chancres at the orifice of the urethra. In cases where the sensibility will admit of it, a catheter or a canula may be introduced, and the irritation mitigated or corrected. On the sixth day after the symptoms commenced, I inoculated a young man with the matter taken from the urethra. On the fourth, the part became red, and proceeded in the ordinary course of other chancres, till its progress was arrested by mercury.

The result of this experiment explains the error that doctor Harrison fell into in his experiment. He inoculated the urethra with the matter of chancre, and because the operation was followed by discharge from the urethra, he concluded, too precipitately, that the discharge was gonorrhœal, and consequently that the two poisons were convertible, either into the other. He should have made the experiment we have done, and saved us the trouble.

Notwithstanding the difficulty with which the matter of chancre finds its way into the urethra by any natural channel, it happens occasionally by accident, like an artificial inoculation, as we could shew by several examples.

SELECTED PAPERS.

Researches on the Symptoms and Diagnosis of Aneurisms of the Thoracic Aorta. By GEORGE GREEN, M.D. Fellow of the College of Physicians; one of the Medical Inspectors of the House of Industry, and Lecturer on the Practice of Medicine in the Richmond Hospital School of Medicine and Surgery, &c.

THE difficulty of ascertaining the existence of an aneurism of the thoracic aorta in its early stage, and before it has given unequivocal external signs of its presence, is, I believe, very generally acknowledged by those practitioners who have directed their attention to the investigation of this subject. Laennec, it is well known, expressed it as his opinion, "that in the present state of our knowledge, there assuredly exists no certain means of ascertaining the existence of this disease, until it shows itself externally, and that even when the tumour has made its way through the parieties of the chest, it is not always distinguishable from tumours of a different kind."* It is now, however, with great reason supposed, that the inventor of the stethoscope undervalued its powers in detecting the disease in question, and in particular Bertin† and Dr. Hope‡ state, that with its assistance the diagnosis of aneurisms of the aorta does not present more difficulties than the diseases of the heart and lungs.

In order to show that these authors have not spoken of the power of this instrument in too favourable terms, I shall proceed to detail some cases of aneurism of the thoracic aorta, in which a correct diagnosis was given, in the absence of any external symptom, and where the principal signs were obtained by careful and repeated examinations with the stethoscope. I shall in the first instance relate the cases with as much conciseness as possible, and afterwards offer some remarks, which a consideration of them has suggested to me. For the dissection of these aneurismal tumours, and for very copious and accurate notes of their histories, I am indebted to Mr. Robert Mayne, the Clinical Clerk of the Whitworth Chronic and Hardwicke Fever Hospitals, House of Industry.

CASE I.—*Double Aneurism of the Thoracic Aorta. Sudden Death from Rupture of the Sac into the left Bronchial Tube.*

Luke Moran, a sawyer, was admitted into the Whitworth Hospital, House of Industry, on the 7th of April, 1834. He had been subject for the last two years, to a cough, attended with great dyspnœa, and frothy expectoration. The cough seized him in paroxysms, generally at night. He also complained of irregular pains, of a lancinating character, through the chest. These symptoms became so severe and unremitting, that he was obliged to discontinue his business six months previous to his admission.

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* Forbes' Translation, p. 690.

† Maladies du Cœur, p. 143.

‡ Art. Aneurism of the Aorta, Cyclopedia of Medicine.

When he came under my care the following were his symptoms. A cough of the description mentioned above, and which lasted for half an hour at a time. He described it as attended with a sense of impending suffocation. The dyspnœa was induced or aggravated by the slightest exercise; he referred to the top of the sternum as the seat of the greatest distress. During the act of inspiration, the trachea was deeply drawn behind that bone; his breathing was laryngeal; he complained of darting pains through the chest, and slight dysphagia; the pulse in the radial arteries was the same; turgescence of left jugular vein; there was no external tumour or visible pulsation; nor œdema or numbness of the upper extremities. The chest sounded clear all over, on percussion; on applying the stethoscope, a distinct impulse was communicated to the instrument over the upper third, and to a short distance on either side of the sternum. The impulse was much stronger than that of the heart; it was not attended with any distinct bruit; respiration in left lung feeble, loud and clear in the right, especially on a forcible inspiration. There was also a distinct impulse communicated to the instrument for a considerable distance down the back, to the left of the spinous process of the vertebræ; no purring tremour could be detected; a distant but distinct bruit de soufflet in this situation; impulse and sounds of the heart normal. When the instrument was applied to the axilla, or to the back, in the situation mentioned, the respiration appeared to be almost laryngeal in the top of the left lung, but was natural in the right, and loud and distinct. On the supposition of there being an aneurism of the aorta, he was ordered the mistura digitalis of the hospital, and a small bleeding from the arm, with leeches to the top of the sternum. He remained under this treatment for five days; on the morning of the 12th April, just as I had left his bed, and had proceeded to the case next in the ward, I heard him give a sudden cry, and on turning round, observed him sitting up with his hand pressed on the left side, and ejecting blood from his mouth. His countenance was indicative of great alarm; on questioning him he complained of intense pain in the mammary region of the left side, and expressed his conviction that he was about to die. The quantity of blood spit up was considerable, and was of an arterial colour. A loud rattle, resembling a mucous rale, was audible in the top and centre of the left lung. From the moment he uttered the cry, he rapidly sunk. His pulse became weak, and in a short time imperceptible; the respiration more and more laboured; his forehead was covered with a cold perspiration, and in half an hour from the first accession of the pain, he died with the lips and extremities cold and ex-sanguineous.

Post mortem examination.—The heart and pericardium did not present any unnatural appearance. On cutting into the substance of the left lung, its parenchymatous structure was found to be injected with blood, which was also found in great quantity in the pleural cavity. The right lung was similarly injected in its posterior half, its anterior edge was emphysematous. The injected portions could easily be broken down by the finger. The aorta was enlarged, and on slitting it up atheromatous deposites were found between its inner and middle coat. From the anterior surface of the vessel, at the point where it winds round the left bronchial tube, an aneurismal sac was discovered about the size of a small orange; it communicated with the left bronchial tube by an opening just large enough to admit a probe. The interior was lined with fibrinous deposites, and it had slightly compressed the left bronchial tube. The œsophagus was situated to the right of the tumour. On removing the lungs, another aneurism on the anterior surface of the aorta, was discovered, somewhat larger than the first, and corresponding to about the seventh dorsal vertebra. It had contracted strong adhesions to the posterior surface of the left lung, and the interior was also lined with fibrous deposites similar to the first.

CASE II.—*Aneurism of the descending Portion of the Arch of the Aorta. Sudden Death without Rupture of the Sac.*

The case I shall next detail was that of a woman named Anne Lee, aged 27. She was of a full habit, and a florid complexion, and was admitted into the Whitworth Hospital on the 8th January, 1835. The history she gave of her case was as follows:—About two months previous to her admission she fell down a flight of stairs on her back, since which time she experienced pain and continual weakness in that situation.

The pain, on her admission, was confined to the part of the spine corresponding to the second, third, and fourth dorsal vertebræ. About six weeks before she applied for advice, a cough, attended with a sense of tightness and oppression of the chest, made its appearance, followed shortly afterwards by a difficulty in swallowing. The increasing severity of these symptoms induced her to apply for admission into the hospital.

My attention was first forcibly directed to this case by hearing the woman cough. It was loud, harsh, and of a peculiar ringing character, and the same retraction of the trachea, deep behind the sternum, was observed in this as in the former case. Before I proceeded to explore the chest I took the following note of the general symptoms. A loud, harsh, and ringing cough, attended with a frothy and rather copious expectoration. It seizes her in paroxysms, during which she is obliged to sit up in bed for fear, as she states, of suffocation. The cough is nearly incessant, but particularly severe at night; dyspnœa distressing, especially on making the slightest exertion. A difficulty in swallowing, referred to the upper third of the sternum, where the morsel appears to stop, and she requires the aid of a drink to assist it on to the stomach. She complains of a pain on pressing the third and fourth spinous process of the dorsal vertebra. The pain is of a darting character, shooting from the spine across to the sternum, and completely traversing the thorax. Pulse in both wrists the same in strength and regularity; no numbness, or twitchings, or œdema in the upper extremities. Appetite good; tongue clean and moist; bowels regular; respiration hurried; catamenia deficient the last six months; pulse 98, full and regular.

The following were the signs furnished by the stethoscope: A clear sound obtained all over the chest on percussion; the respiration in the right lung distinct, but accompanied by a kind of blowing sound, when the instrument was applied posteriorly, about the situation of the bronchial tube, or in the axilla of the right side. The respiration in the left lung was feeble, and sometimes nearly inaudible. An obscure impulse, accompanied by a bruit de soufflet, in the interscapular region. Both these phenomena most distinct at the left side of the spine, and confined to the situation where she complained of pain on pressure: they were most remarkable when the arterial system was excited by any sudden exertion. Anteriorly an impulse was communicated to the stethoscope at the sterno clavicular articulation, and sub-clavian region of the left side. The impulse was attended with a double sound, and was somewhat stronger than that of the heart. An obscure bruit de soufflet was heard in the same situation; the impulse and sounds of the heart were natural. She complained of pain when percussing the top of the sternum. She was ordered a small bleeding from the arm, leeches to the top of the sternum, and a mixture containing tinct. digitalis. She was allowed a little meat for dinner, with milk for breakfast. Absolute rest enjoined. Under this treatment she appeared to have obtained relief for a short time, but the cough, dyspnœa, shooting pains, and difficulty of swallowing soon returned with increased violence. General and local bleeding on several occasions were necessary to mitigate the severity of these symptoms.

On the last examination, two days before her death, I took the following note of her symptoms:—February 3d, a strong double impulse a little below the sterno-clavicular articulation, at the left side of the median line of the sternum, accompanied by two distinct sounds, and a clear bruit de soufflet. Impulse diminishes towards the heart, which retains its natural impulse and sounds. No expansive pulsation found on pressing the fingers deep behind the clavicles; left jugular vein turgid. Posteriorly, at the situation of the third and fourth dorsal vertebræ, a decided and, apparently, a single impulse, accompanied with a bruit de râpe, communicated to the instrument. These signs diminish in intensity as the stethoscope is applied down the spine at the left side. Respiration presents the same characters as on the first examination, but more clearly marked. On pressing the ball of the thumb forcibly to the spine, at the situation of the impulse, a tremor is communicated to the hand; the pressure produces pain. On looking along the anterior surface of the chest horizontally, a distinct elevation perceptible at the top of the sternum, where percussion, also produces pain, and pulsation can be felt; no dullness in the situation of the impulse. All the general symptoms increased in severity. The dyspnœa causes her great alarm, and makes her frequently start up in bed and call for assistance.

She died suddenly on the night of the 5th February, as I understood from the nurse, in a fit of dyspnœa, before assistance could be procured.

Post mortem examination.—On opening the chest, the heart and pericardium were found to be natural. An aneurismal tumour was discovered arising from the descending portion of the arch of the aorta, where it is in contact with the left bronchial tube, and stretching across the vertebræ to the right side. The œsophagus ran directly in front of of the tumour, separating it from the bifurcation of the trachea. At the junction of the transverse with the descending portion of the aorta, a smaller aneurism, large enough to contain a bean, extended behind, and pressed upon the left bronchial tube, between it and the œsophagus, and communicated with the aorta by a well defined opening. The larger tumour rested upon the bodies of the third and fourth dorsal vertebræ; the osseous portion of which was absorbed, leaving the intervertebral substance prominent. This portion of the spine formed the posterior wall of the sac, the pressure of which had somewhat flattened the right bronchial tube. The sac communicated with the aorta by a well defined opening, large enough to admit a man's thumb. Its interior was lined with a firm, fleshy-looking coagulum, and did not appear to contain much recently coagulated blood. Its size was about that of a small orange, and the walls were perfect.

CASE III.—*Aneurism of the Thoracic Aorta.—Sudden Death from Rupture of the Sac into the left Bronchial Tube.*

This case was first diagnosed by Dr. Wm. Stokes, at the Meath Hospital. The accuracy of his examination will be best perceived by reading the following note, which was taken when the aneurism must have been in a very incipient state, and is on that account very valuable. The case is also interesting, because the same physical signs were discovered at the Richmond Hospital, House of Industry, where, previous to the man's death, he was examined by myself and Mr. M'Dowell, whose patient he became, and both of us were satisfied as to the existence of the disease. I shall first, by Dr. Stokes' permission, insert his note of the symptoms, and afterwards that of Mr. M'Dowell, which was copied for me by Mr. Mayne, who, with Mr. Cumming, one of the pupils of the Richmond Hospital, diligently observed the progress of the case. The following is Dr. Stokes' account of the examination of the case, with the diagnosis he made at the time.

Suspected Aneurism of the Arch of the Aorta.

Michael Hughes, a butler, ætat. 38, a stout, well-made man, was admitted into the Meath Hospital, complaining of great dyspnœa, cough and wandering pains about the back and chest. The whole of the chest sounds clear on percussion. Respiration in the right lung intensely puerile, altogether absent in the superior portion of the left, and only feebly audible in the interior portion. On applying the stethoscope to the left axillary region, and the patient being desired to draw in a deep breath, no sound is heard during the first half of inspiration, but during the latter half the air appears to overcome some obstruction to its entrance, and suddenly rushes in to expand the lungs. The left side of the chest is almost immovable during respiration, but the right acts freely. On applying the hand to the upper part of the left side, no vibration of the voice could be detected. The vibration is very feeble below on the the same side, but well marked on the right side; impulse and sounds of the heart natural; a strong, double pulsation is heard over the sub-clavicular region of the left side, also over the postero-superior portion of the same side, and on applying the hand over the former situation a distinct impulse is communicated to it; no bruit de soufflet could be detected. The cough is loud and ringing, and of a peculiar croupy character; expectoration scanty, consisting of frothy mucus; respiration hurried. Pulse 86, and moderately full; tongue clean, appetite good; never had any difficulty in swallowing, or pain in the throat. He attributes his complaint to cold caught five months ago from sleeping in a damp pantry, shortly after which he became affected with perspirations, wandering pains in the back and sides, increased upon exertion, and attended with some dyspnœa. The pain in the back he describes as being of a lancinating character, resembling that which would be inflicted by a knife. The distress of breathing increased, with inability to use any violent exertion, and after some time was attended by a loud dry cough. The treatment since he entered the hospital has consisted chiefly in local depletion, together with small doses of tinct. digitalis.

May 2nd.—A strong double pulsation is now heard across to the right clavicle; the pulsation has increased in the sub-clavicular region, and also over the scapula, with a strong impulse below the middle third of the clavicle; after the patient walking several times up and down the ward, a sharp, well-marked bruit de scie was detected in the latter situation. It disappears, however, after the patient has remained quiet for a short time, and again returns after exercise.

I shall now insert the report of the physical signs taken from the case book of Mr. M'Dowell, at the Richmond Hospital.

Anteriorly the right side of the thorax sounds well on percussion; a little dullness in the sub-clavicular and mammary region of the left side;

respiration in the right lung remarkably loud and clear, very obscure in the left lung, except on taking a deep inspiration, which produces a feeble vesicular murmur. A strong impulse communicated to the stethoscope, two inches below the clavicle, and about an inch and a half to the left of the median line of the sternum; impulse also perceptible across the sternum to the right clavicle; it is greater than that of the heart, and appears to be double; it is also perceptible to the hand. A slight impulse communicated to the stethoscope at the left side of the second and third dorsal vertebræ; no bruit de soufflet could be detected in this situation, nor anteriorly except after great exertion; pain on percussion of the upper third of the sternum, and in the situation of the vertebræ above mentioned. His general symptoms are severe cough of a shrill, croupy character, attended with copious frothy and purulent expectoration. Excruciating pains of a lancinating character, extending from the superior part of the chest, in various directions; urgent dyspnœa, and copious perspirations, confined to the head and chest; does not complain of difficulty of swallowing; the jugular vein of left side distended; pulse in both wrists the same; does not complain of numbness in his arms, nor is there any œdema of the upper extremities; impulse and sounds of the heart natural. These symptoms increased progressively, for which he was occasionally bled, and put under the influence of digitalis, with counter-irritants. Nothing, however, appeared to give him decided relief, and he expired suddenly one night during a fit of coughing; at the same time spitting up a quantity of blood.

On dissection an aneurismal tumour was found arising from the descending portion of the aorta, and pressing upon the left bronchial tube, which was considerably indented and narrowed. The posterior wall of the sac was made up by the bodies of the second and third dorsal vertebræ, the osseous portion of which was absorbed, and presented nearly the same appearances as in the case last detailed. The interior of the sac was lined with a fibrous coagulum, and it opened into the left bronchial tube; the œsophagus was slightly pushed to the left side; the interior of the aorta was crowded with antheromatous depositions between the internal and middle coat; the heart and pericardium were natural.

On examining these cases, it will be perceived that there were some symptoms common to them all. The first I shall consider is the remarkable difference in the respiration of the two lungs, and I am the more anxious to call attention to this fact, from its having been much insisted on as an additional means of assisting our diagnosis in this disease, in a valuable paper on the pathology and diagnosis of aneurism, by Dr. Wm. Stokes, in the fifth volume of the Dublin Medical Journal.

The value of the sign, according to Dr. Stokes, consists in this, that the absence of respiration cannot be accounted for by any lesion of the lung, discoverable by auscultation or percussion. The fact of there being a clear sound on percussion, and at the same time a feebleness of the respiration, naturally leading to the conclusion that some impediment must exist to the entrance of the air into the lung on inspiration. He also suggests that perhaps it may be found, from further observations, that a solid tumour pressing on the bronchial tube will produce a permanent feebleness of respiration, but that an aneurismal tumour may allow of the occasional reappearance of it, according to the variable nature of the contents of the sac. I could not perceive, however, in any of the cases above mentioned, that this latter phenomenon took place, but I found the fact of a feeble respiratory murmur, combined with a forcible entrance of the air into the bronchial tube on deep inspiration, of great assistance in forming a diagnosis. The only case I have met with of a solid tumour compressing the trachea, or its divisions, was that of a woman named Mary White, who was admitted into one of the chronic wards of the Whitworth Hospital, for acute bronchitis. The general symptoms of this affection were strongly marked; and the clearest evidence of it obtained by percussion and auscultation. She was treated by bleeding, which it was necessary to resort to several times, and put under the influence of tartar emetic. This treatment gave her decided relief; but the symptoms uniformly returned with the same violence upon discontinuance of the treatment. This led me to examine the chest with great attention; I suspected an aneurismal tumour might be the cause of the great dyspnœa, and recurring cough, but after several examinations, I could not satisfy myself as to the existence of this affection; no appreciable difference in the respiration of the two lungs could be discovered, nor was there an anormal pulsation in any part of the chest. The bronchial râles were intensely loud; the dyspnœa, notwithstanding every attempt to relieve her, increased in frequency and severity, and she expired one night in the act of rising from bed, apparently with a design of seeking relief from an upright posture.

On dissection I found an enlarged bronchial gland about the size of a large walnut, just in the bifurcation of the trachea, and adhering to it. It was filled with osseous and caseous deposites, similar to those mentioned by Mr. Carswell and other pathologists; scrofulous matter was found in the right bronchial tube, but there was reason to suppose it had escaped from the tumour, by an incision accidentally made in examining the parts. The dyspnœa in this case could not have arisen from the pressure of the tumour on the bronchial tubes, as their natural calibre was not in any way altered. It is more reasonable to ascribe it to the irritation of the nerves, particularly of the phrenic, which was in close contact with the sharp spiculæ of bone, with which the tumour was studded. These nerves are accurately shown in the preparation of the tumour, and were carefully dissected by Mr. Robert Smith, curator of the museum of the Richmond Hospital. It would have been interesting to have observed in this case whether the dyspnœa would have increased, as it almost invariably does in the case of aneurism, on making the patient walk quickly, so as to increase the circulation, and thus produce a distension of the sac, but being persuaded of the non-existence of that disease, I did not resort to this expedient. The bronchial tubes presented through their entire extent marks of intense inflammation.

In the two last cases of aneurism, the effects of the pressure of the tumours on the left bronchial tube are shown in the plates accompanying this paper, and in the case of Hughes in particular, it will be seen by an inspection of the drawing, how, in the act of inspiration, the air rushed through the tube in the manner described by Dr. Stokes. When I examined this man, I did not detect the phenomenon of the inspired air appearing to overcome an obstacle, but considerable changes must have occurred in the sac since the time the disease was first discovered. Notwithstanding this circumstance, I have no doubt that had my attention been directed to the sign in question, I might have detected it, but as it was, great feebleness of respiration was what I observed.

In the case of Lee, the compression of the tube was not so obvious, as it was produced by the smaller tumour, which requires a manual examination of the preparation, to be seen properly, and could not be well delineated in the drawing. This smaller tumour pressed the œsophagus against the left bronchial tube, and hence produced the great dysphagia. From its position, also, it must have nearly prevented the ingress of air into the left lung. In the first case the left bronchial tube was also compressed, and the respiration of that lung consequently feeble; but as I did not suspect the existence of the second aneurism, I neglected to examine the postero-inferior portion of the lung, with the same accuracy I would otherwise have done, and consequently cannot state what modification of the respiration took place in consequence of its pressure on the lung.

In alluding to this sign, it is not meant to be inferred by Dr. Stokes; that it will be found to be pathognomonic of the disease in question, as it may be produced by other tumours besides those of aneurism; but it becomes important when occurring with the other symptoms of the affection, both general and physical. It is clear, also, that an aneurism may be developed in the inferior descending portion of the aorta, where we would be altogether deprived of this sign. From studying the anatomy of this vessel, so accurately described by Professor Harrison,* it will be seen, that a long portion of it, from about the third dorsal vertebra to its entrance into the abdominal cavity, is unconnected with the primary divisions of the trachea, and hence, whatever modifications in the function of respiration may be produced from pressure of the tube, must be sought for in the portion of the lung inferior to these divisions.

The next sign I shall consider as having occurred in these cases, is the fact of an anormal pulsation in the interior of the chest. It will be recollected that Laennec did not place much reliance on this symptom, except when it occurred under the form of a strong single impulse. Several circumstances, however, may prevent us from perceiving this single impulse, when the chest is examined anteriorly. The proximity of the tumour, for instance, to the heart, as at the origin of the aorta, will necessarily render the occurrence of this phenomenon less available for diagnosis, from the contiguity of the impulse of that organ. Again, should the tumour be situated at the descending portion of the aorta, its impulse will be masked by that of the heart which lies before it. These difficulties will be increased in hypertrophy of the organ; notwithstanding these obscurities, however, the sign alluded to is a most important one. It has been remarked by Dr. Hope, that when this phenomenon occurs posteriorly, particularly when accompanied with a sound of a rasping character, it is almost a positive indication of the development of aneurism, and I found this phenomenon to be well marked, particularly in the case of Lee. The sounds accompanying this impulse appear to be susceptible of great variation, owing in all probability to the depositions which take place in the interior of the sac, or to the variations of its aperture which occur in the progress of the disease, influenced, also, by the greater or lesser velocity of the circulation at different times.

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* Harrison on the Surgical Anatomy of the Arteries, third edition.

That two sounds may be heard in an aneurismal tumour I can have no doubt, from my own observations and those of others. The causes of these sounds are not yet fully understood. From the experiments of Magendie,* it would appear that sounds of different intensity may be produced by the forcible injection of fluids through tubes of different calibres, and may be still further modified by pressure exercised on their exterior. Whether in the case of the aneurismal sac, two sounds may be produced by the action of the parietes of the tumour itself on its fluid contents, requires the admission of a degree of elasticity in these parietes, which, perhaps, we are not authorized to assume in the present state of our knowledge. The subject, however, is well worthy of consideration. Elasticity, we should recollect, is one of the physical properties of all organized matter; and we have no *certain* grounds for supposing that the walls of a *false* aneurism are deprived of it. In order to clear up this point, it would be useful to examine aneurisms occurring at a distance from the centre of the circulation, as for instance, popliteal aneurisms. If in these cases a double sound could be clearly heard, it would not only throw light upon this subject, but might also be urged as an objection to the theory recently adopted by Magendie† to explain the sounds of the heart, as we can scarcely conceive any analogy between the physical conditions which this distinguished physiologist states are necessary for the sounds of this organ, and those that we find in the case alluded to. As I have not been able, however, since I thought of this subject, to examine a case of an aneurism in the extremities, I am at present obliged to confine myself to conjecture.

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* Lectures in the Lancet, 1835.

† Ibid.

It will be perceived by reading these cases, that no assistance was obtained by the aid of percussion. This must necessarily be the case whenever the tumour is situated in contact with the vertebral column, and has not attained any considerable size; under such circumstances, and if the lungs are healthy, a clear sound will be obtained anteriorly, and whatever dullness is perceptible posteriorly, may be with reason attributed to the column itself. When, on the other hand, the tumour has reached such a size as will necessarily induce dullness on percussion, the disease will, in all probability, be evidenced by other and more remarkable phenomena. This observation will also apply to aneurismal tumours of the thorax in their incipient state wherever situated, but is more obvious in the instance alluded to.

In the second case, a purring tremour in the situation of the impulse posteriorly was very perceptible, when the ball of the thumb was pressed firmly down on the tumour, and could not be detected in any other part of the chest. It was perceptible when the respiration was discontinued. This sign, however, was not so remarkable in the other cases; and we know that it does not necessarily accompany the development of aneurisms in all stages of their increase. It ought, however, to be taken into account, when it occurs at a distance from the heart, and can be proved to be unconnected with any lesions of the respiratory function, or with a disease of the heart.

With reference to those symptoms which, in the language of systematic writers, are called "general," many differences must of course occur, according to the situation which the sac occupies. It will be observed, for instance, that in those cases no assistance was derived from a difference in the radial pulsations, or from numbness or œdema of the upper extremities. The absence of these symptoms, whenever the physical signs of an aneurism are strongly marked, may, perhaps, lead us with more certainty to a knowledge of the part of the vessel which the disease occupies, and also to the progress it is making. This is so obvious from considering the anatomy of the aorta, that I need not here make any lengthened observations upon it. In fact, when we have the physical signs above adverted to, and those general symptoms absent, we must infer that the tumour is below the origin of the great vessels going to the head and upper extremities; and if, in the course of the disease they make their appearance, we may infer that the sac is expanding upwards, and exercising a pressure on them. The same observation will apply to the absence of numbness and œdema of the upper extremities.

The violent paroxysms of dyspnœa was one of the most remarkable circumstances attending these cases, but when we reflect on the number of sources from which this symptom will arise, we must see how uncertain it is, when taken by itself, to indicate the existence of an aneurism. That in the disease in question, other circumstances, besides the mere pressure of the tumour on the bronchial tube, concur to its production, appears to be evident from several considerations. I have already detailed a case where a violent and almost uncontrollable dyspnœa arose from the contact of a solid tumour, without producing any diminution of the calibre of the tube, at least none that was appreciable from examination after death. The occurrence of dyspnœa has been particularly adverted to by Dr. Graves, in one of his Clinical Lectures,* when treating of aneurisms in the thoracic cavity. Among many original observations upon this point, Dr. Graves remarks, that independently of the sensation of distress which arises from a portion of the lung being deprived of air, owing to the narrowness or obliteration of the tube going to it from pressure, other causes may be assigned for the dyspnœa and pulmonary irritation. He conceives that in such a case a portion of the lung undergoes changes analogous to those of the whole lung in the case of asphyxia; in this instance the blood from the right side of the heart ceases to be properly aerated, and stagnating in the lung, renders it engorged, and hence the secretions and exhalations are altered and unnatural, from whence arise, in addition to dyspnœa, irritation, cough, and expectoration. This reasoning, which appears difficult to disprove, may be applied to account for the constantly increasing pulmonary irritation which was observed in some of the cases I have mentioned, particularly in the last, where the expectoration in the end was decidedly purulent. We must not, however, neglect to take into account, as I have just observed, the many other causes of this phenomenon. That it depended in the case I have mentioned of the woman White, on the irritation of the nerves which surrounded the tumour, will, I think, be evident from considering the effects which follow the mechanical irritation of the nerves going to any particular muscle. We know that in such an instance spasms of greater or lesser violence will be the necessary consequence; and applying this reflection to the case under consideration, it will not be difficult to perceive, that the irritation of an osseous spicula on the phrenic nerve must have produced violent spasms of the diaphragm. If we adopt, with some physiologists, the opinion, that the bronchial tubes and the lungs themselves are endowed with contractile properties, the irritation of the nerves composing the pulmonic plexus would still further have aggravated the dyspnœa. Perhaps we might extend this explanation to account for the violent dyspnœa which is often one of the earliest symptoms of aneurisms in the thoracic cavity, recollecting that every deposite in the coats of the aorta, particularly an osseous one, will prove a source of irritation to the nerves with which it may be in contact; but these deposites most frequently precede the development of the disease.

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* Dr. Graves' Clinical Lectures,—Renshaw's Medical and Surgical Journal, Lecture 5th.

The difficulty of swallowing is more likely to be experienced in those cases where the disease occupies the transverse and descending portion of the arch, than elsewhere. In this situation the œsophagus is more fixed, as it were, than in any other portion of its course, except where it passes through the diaphragm. From its comparative mobility, in the upper and lower portion of its course, it may in a great measure elude, for a considerable time, the pressure of the tumour. When this symptom does occur, it only becomes valuable when taken in conjunction with the physical signs, and of course cannot be relied upon if it occurs as an isolated phenomenon. The importance, in such a case, of being able to ascertain its dependence on the pressure of an aneurismal tumour, is obvious from the fact of probangs having been passed down in this disease, under the supposition that the stricture was unconnected with it.

Among the general symptoms, turgescence of the left jugular, in particular, is usually alluded to by authors. This symptom occurred in the three cases I have given; but as the tumour in each of them was at a considerable distance below the vena innominata, I am somewhat at a loss to conceive how their pressure could have influenced the circulation of the blood through it. The idea that suggests itself to me is, that the tumours might have produced an impediment to the aortal circulation, by which the arch would be over-distended, and would hence in its turn produce a pressure on the vena innominata. Should this supposition prove to be well-founded, we might have this symptom, although the aneurism were situated at a considerable distance from the vein.

The result then of these cases, together with those already published, particularly by Dr. Stokes* and Bertin,† proves that we are in possession of a number of physical signs, which, when attentively studied in connection with the general symptoms, will lead us to a knowledge of this obscure disease, even before it has made any considerable progress. The necessity of taking every phenomenon into consideration, is obvious. We should recollect that our diagnosis ought never to be founded on one or two, but on a series of observations, carefully noted and compared with each other.

I have before mentioned that there is a portion of the aorta where some of those signs must necessarily be absent. As far as the different portions of the arch of the aorta are concerned, the diagnosis of aneurism of the vessel may be said to be in a great measure rescued from the obscurity in which it was formerly involved, and for which we are much indebted, amongst others, to the observations of Dr. Stokes. But when we come to consider the signs and symptoms we are able to collect when it occurs in the remainder of its course in the thorax, we find that they are diminished in number, and are often so feebly characterized, as to escape our notice. It may be superfluous, perhaps, to give an example in proof of this assertion, when so many are already on record. The following case, however, which occurred at the Whitworth Hospital, is so much in point that I will here mention it. The case was taken by Mr. Mayne, who was clinical clerk at the time the man entered the Hospital. I had not myself an opportunity of examining the patient. I shall give a very condensed account of it from the notes furnished to me by Mr. Mayne.

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* Dublin Medical and Surgical Journal, vol. v.

† Observations 37 and 38, Maladies du Cœur.

Laurence Duffy, aged 43, admitted 12th July, 1833, states he had been healthy all his life, until about nine months previous to his admission, when he began to experience a difficulty in swallowing, the increase of which induced him to apply for assistance. When questioned, he complained of difficulty in swallowing, which he referred to the centre of the sternum, where the effort was attended with pain followed by vomiting. Fluids passed down without difficulty; his bowels were constipated; the chest sounded well throughout; the respiration over its entire extent was perfectly natural. His bowels were freed by a calomel bolus, and purgative mixture. A slight cough, which he had on his entrance, altogether disappeared for seven days after his admission, and no symptom whatever was complained of, but the dysphagia. He died suddenly on the night of the seventh day from his admission.

On dissection an aneurism was found corresponding to the fifth and sixth dorsal vertebræ, about the size of an orange, and it had burst into the right pleura. The tumour had slightly bent the œsophagus, which formed a curve, the concavity towards the sac.

Here then is an instance where, if we were to rely on the general signs, we should have had but one to excite our suspicions of the disease; and this should lead us, in all cases of long-continued dysphagia, to institute an accurate examination for the physical signs of aneurism. A question then naturally arises; what are we to expect from such an examination, when an aneurism exists in this situation? It will be obvious that when the mouth of the sac is situated below the fourth dorsal vertebra, we cannot expect to find the same modifications of the respiration as those above mentioned. I mean this remark to apply to the incipient stage of the disease, for when it is considerably advanced, the expansion of the sac upwards may of course produce pressure on either of the bronchial tubes, but even such an occurrence could not happen for a considerable length of time, when the tumour is situated opposite the eighth or tenth dorsal vertebra. It might perhaps be important to observe in such a case, whether the patient complained of pain on deep inspiration at the postero-inferior portion of the lung, or whether pains resembling those of pleurisy exist about this situation, for if the sac should contract adhesions to the pleura, it might not be unreasonable to expect pains similar to those that precede the advance of tubercles to the surface of the lung. When the sac has so far increased as to produce an absence of respiration in any considerable portion of the lung, the nature of the case will be in all probability apparent from other symptoms.

On reflecting upon the symptoms which would attend an aneurism so low down in the thorax, I at first imagined, that if the tumour produced an impediment to the aortal circulation, we might be able to ascertain it by the feeble impulse of the abdominal aorta, when the stethoscope was pressed firmly down upon it, some way above the umbilicus, but on considering the cases that have been published of obliteration or contraction of this vessel, I am not inclined to suppose that this phenomenon would exist. Many cases of such a change in the artery, as I have mentioned, are now on record. The latest published is in an interesting communication from Mr. Nixon, in the fifth volume of the Dublin Medical Journal, where copious references are made to those previously noticed. From examining the plates which illustrate these contractions of the vessel, it will be seen that the aorta immediately below the constriction is abundantly supplied by collateral vessels, and no perceptible diminution of the calibre of the tube can be recognized. It is remarkable that this phenomenon has occurred in so many cases, near the situation of the ductus arteriosus, and it may become a question for further consideration, whether the process established by nature for the closure of that tube at birth, may not be extended to the aorta in its vicinity, and thus constitute either a congenital malformation, or establish a predisposition to aneurism in this part of the vessel.

The collateral circulation, I have alluded to, is attended with such an enlargement of the vessels that carry it on, that I was in hopes we might be led to infer the existence of the stricture, by attending to the increased pulsations in these arteries; but unfortunately, they are so numerous and deeply seated, as to be without the reach of any means we can apply to discover their pulsations. In all probability, also, should the closure occur from the pressure of an aneurism, these changes in the collateral vessels will be a gradual process, so that no sudden diminution of the pulsation of the vessel could be discovered below the stricture. The principal alterations that occur in these cases, are in the intercostal arteries, and their anastomosis with the mammary, &c. as is well seen in a plate in Meckel's Archives, 1827. The case of constriction, published by Meckel, occurred about the situation of the ductus arteriosus. It was accidentally discovered in the body of a patient, who died at Bonn, but of whose previous history nothing could be ascertained. In the plate which illustrates this lesion, and for the inspection of which I am indebted to Dr. Graves, who directed my attention to the case, these arteries are seen remarkably developed and tortuous, but as I have just observed, they would be too deep from the surface to enable us to recognize their pulsations during life.

In concluding these remarks, I would wish to direct attention to the obscurity which still attends the diagnosis of aneurism of the inferior descending portion of the aorta, an obscurity which does not attach in so great a degree to aneurisms of the different portions of the arch. Since I have entered on the investigation of this subject, I have not been able to examine a case of the disease in this situation, but it is not improbable that those who have, will be enabled by their observations to elucidate this interesting point of pathology.

As far as I am at present enabled to offer an opinion, the principal symptoms and physical signs on which I would be inclined to diagnose the existence of an aneurism in the situation I have just mentioned, would be as follows:

1st. An impulse limited in extent, and decreasing in intensity as the stethoscope is applied above or below the situation of the suspected tumour. This sign is more valuable, if it occurs on the right side of the spinal column, which is not the situation, anatomically speaking, where an impulse should be perceived.

2d. A bruit de soufflet or a bruit de râpe, heard in the suspected tumour, and not observable in any other considerable portion of the aorta or in the heart. It is necessary in every instance to examine the heart, for within these few days, I have met with a case, in the Whitworth Hospital, where a loud bruit de râpe accompanies the second sound of the heart, this bruit is heard down the spine along the course of the aorta. It is heard also in the carotid and brachial arteries, even to the elbow-joint. I have satisfied myself that in this case a double sound is heard in these arteries.. The name of the individual in whom these phenomena occur, is William Connor, and several of the class of the Whitworth Hospital have heard both the bruit and the sound in the situations mentioned.

3d. The production of pain on pressing the vertebral column over the site of the impulse.

4th. The production of pain referred to a portion of the lung near the situation of the impulse, on a forcible inspiration.

5th. Dysphagia referred to some point below the middle third of the sternum, or to a point nearly opposite the impulse.

Lastly, it may be worth while to contrast the pulsations of the abdominal aorta in the epigastrium, with other arteries and with the impulse of the heart.

We should take into consideration also (provided the above signs are well marked) the evidence we may obtain with respect to the position of the tumour from the absence of some symptoms: such for instance as the non-existence of a laryngeal croupy cough; difference of pulsation in the two radial arteries; or numbness or œdema of the upper extremities.

I regret that the time afforded for getting this paper ready for the present number of the Journal, is not sufficient to enable me to consider this subject more at large. As, however, I have had no opportunity of studying the phenomena attendant on an aneurism in the part of the thoracic aorta to which I wish to draw attention, I feel it more prudent to reserve any further observations for a future opportunity. I am sensible of having left much concerning this interesting subject as yet untouched, but in giving the cases above detailed, I shall be satisfied if they tend to strengthen our confidence in the diagnosis we are able to arrive at, by the additional aid of auscultation. The publication of such cases is the more necessary, from considering the doubtful terms in which Laennec expressed himself concerning the value of the stethoscope, as applied to the diagnosis of the disease in question. We should, however, recollect, that the obscurity which the brilliancy of one mind is unable to dissipate, may be cleared up by the labours of many, and that the contributions of individuals for this purpose are, in the language of Abernethy, "like lights shining from many quarters."

[*Dublin Journal, May*, 1835.

REVIEW.

Admonere voluimus, non mordere.——
Sunt bona; sunt quædam mediocria, sunt mala plura.

Surgical Anatomy of the Arteries, with plates and illustrations. By Nathan R. Smith, M.D. Professor of Surgery in the University of Maryland, and one of the Surgeons to the Baltimore Infirmary. Second edition, greatly improved. 4to, Baltimore, 1835, Lucas & Wight.

We are irresistibly led to inquire, why a work of such intrinsic merit and extended usefulness as that before us, should have remained thus long unnoticed by the medical journals of our country? Why is it, that the American reader must refer to the Medico-Chirurgical Review, to learn that within the immediate precincts of his own fireside, is to be found a work inferior to none upon the subject of which it treats, and offering to the practitioner, information,—the loss of which, for a single moment, may involve him in perplexity and difficulty? The utility of the work will not be denied, when we reflect upon the accidents incident to man, which involve important blood-vessels, and demand the prompt and judicious attention of the nearest physician. That Dr. S. has performed the task with ability, will be admitted by every candid and impartial reader: why is it then, that five years should have rolled by, and the medical community be kept ignorant of the existence of such a work? We do not pretend to answer these queries, but are prone to believe, that had it been the issue of some favourite and prolific press, its merits would not have been overlooked.

The work comprises two parts. The first embraces the general anatomy, physiology, and pathology of the arteries. After giving a general view of the arterial distribution, and its ultimate termination in radicles, inosculating with each other; 2d, in exhalent terminations; 3d, capillary twigs, inosculating with the ultimate venous ramifications; the doctor describes minutely the character and arrangement of the coats which form the vessels. The second section, devoted to the functions of the arteries, is occupied with the discussion of the question, (so long agitated,) in reference to the part which the arterial tubes take in the circulation of the blood. Although there are those who contend that the arteries are passive sanguiducts, and that the heart is the sole propellant organ; yet the number is comparatively small, for the every day's experience of the profession is furnishing the most conclusive evidence of the entire independence of the capillary system. Indeed, the symmetrical and beautiful structure of modern pathology, assumes for its foundation the correctness of this position; for if the capillary circulation was, (under every circumstance,) dependant upon the heart's action, there could not be a local irritation or abnormal circulation in any part of the capillary system, without referring its origin to irregularity in the heart's action. In addition to the arguments and facts usually adduced to sustain the active state of the arterial vessels, Dr. Smith has advanced several cases which occurred under his own observation, one of which is subjoined.

"Some years ago, I had occasion to apply a ligature to the anterior tibial artery, that organ having been wounded by a narrow cutting instrument, below the middle of the left leg. I was assisted by Dr. Jamin Hamilton, who, with myself, noticed the following facts. The ligature having been applied above the wound, the bleeding immediately ceased. At the end of a few hours, however, it returned, and the blood evidently flowed in the retrograde direction from the inferior portion of the wounded artery. On applying the finger to the anterior tibial artery, on the tarsus, it was found actively beating. Presuming that the course of the blood was recurrent, I applied one finger upon the artery, just where it merges itself between the metatarsal bones—another higher up, on the tarsus. When I pressed firmly with the lower finger, no pulsation was felt by the other, but when I pressed with the upper, the artery still beat below. Although this artery received no blood but through anastomosing branches, and consequently was greatly protected from the vis-a-tergo of the heart, yet it beat with far more force than the corresponding artery in the other foot. It should be remarked that the left leg, near the wound, was under high inflammatory excitement. The increased action of the artery, then, must have been owing, not to the impulse of the blood from the heart, but to the vis-insita of its own coats, and of the capillary vessels communicating with it. It is in vain to say that the blood, finding its way into the artery by the anastomosing branches, was unable to escape freely in consequence of the obstructions at the wound, and thus distended the artery. The artery seemed to empty itself freely between the beats, and could then be scarcely felt; besides, blood, it is known, will not so freely seek vessels which are thus obstructed." p. 13.

The variable state of the pulse under disease, would strongly indicate the independence of the arterial vessels; for it appears conclusive, that if the heart was alone the agent of circulation, and the vessels merely passive tubes, no alteration of the heart's condition would present us with the phenomena so strikingly prominent, in the various forms of organic lesion; for although the strong and full pulse, the frequent pulse, the quick pulse, the weak pulse, the intermitting pulse, &c. may be attributable to irregularities in the heart's action, yet the small, corded, wiry pulse, or the soft, dilated pulse, is equally referrible to the condition of the arterial coats, and independent of the heart. Even those who contend for the dependence of the capillary vessels, admit that the vessels may become debilitated and relaxed, and thereby permit the vis-a-tergo of the heart to propel the blood into and thus distend them. Now if this is admitted, our author contends that all that is asked is promptly conceded; for a power of relaxation presupposes a power of contractility, and cannot occur in an elastic texture.

When we revert to the anatomical arrangement of the arterial vessels, and discover that as we proceed from the heart, the division into branches is not always in a direct ratio to the calibre of the main trunk, but that the branches united, present us with an increase in capacity, we at once perceive the total insufficiency of the vis-a-tergo to keep up a circulation; for if the heart was the sole propellant power, its action or in other words, the contraction of the left ventricle must drive the fluid onward to the extreme point of the vascular system. If this was the actual state of things, we should doubtless have perceived an entirely different arrangement of the arterial system, and instead of the capacity increasing as we advance toward the extremity of the circulation, we should discover a mechanical provision for the propulsion of the blood, by the converse of the present distribution. In the erectile textures we have the circulation undergoing constant mutations; and will it be said, that this local variation is owing to the peculiar action of the heart? Can it be urged that the heart has, by some inexplicable intelligence, recognized the demand made at this point, and by some mysterious agency, has so modified its energy and action as to direct the mass of circulating fluid to these erectile tissues? Is the mere yielding of vessels to the vis-a-tergo of the heart sufficient to account for this engorgement of textures; or is it not more consistent with the phenomena of vitality to look to the active contractility of the capillaries for the solution of the difficulty? If sulphuric ether be applied to the skin and evaporation prevented, the increased action of the capillaries is speedily recognized by the redness; in this case, the disturbance is evidently local, and confined to the point to which the application is made, and so far from disturbing the balance of the heart's action, the surrounding capillaries themselves are not affected. Dr. S. believes that this active contractility of the coats of the capillary vessels, not only urges on the circulating fluid thrown upon them, by the adjacent arterial vessels, but enables them to draw or pump into them a supply of blood with great rapidity, from the main branches of the arteries.

"The morbid congeries of vessels, denominated aneurism-by-anastomosis, furnish facts in support of the same position. When the surgeon, extirpating these tumours, cuts widely around their base, incising only the healthy parts, there is but little more bleeding than in the extirpation of ordinary sarcoma; but if he incautiously wounds the bundle of diseased vessels, there occurs a furious gush of blood, extremely difficult to control. It would seem then, that these vessels have the power of soliciting forward the current of blood through the nutrient arteries of the tumour, much faster than it is driven by the mere impulse of the heart." p. 14.

The contractility of the arterial coats is farther sustained by comparative anatomy; for instance, in some animals we have a single heart, composed of an auricle and ventricle; from the latter we have the aortal trunk passing off and dividing into a number of branches, which go directly to the gills and form the branchial arches, and while ramifying through these organs, the venous blood is converted into arterial, which is returned to the aorta or true systemic artery, by a set of vessels arising at the extremities of the last mentioned, by which it is circulated through the system. Thus we perceive that the heart's action can at most, only send the blood to the extremity of the branchial system, from which, by the action of a set of vessels, arising at the termination of the last, and certainly independent of the heart, it is sent to the principal trunk of the arterial system, (aorta,) by the contractility of whose coats it is urged onward in the round of circulation. The subjoined paragraph presents the views of our author in reference to the part which each organ of the circulating apparatus performs, in the propulsion of the blood through the organism.

"The facts and reasoning which we have stated above will justify the inference, that the more active agents of the circulation are at the two extremes of the arterial system—the heart at one extremity and the capillaries at the other; that the common trunk of the arteries co-operate in the circulation by the re-action of its elasticity; that the minor arteries exercise an obscure contractility, and that the capillary vessels exercise a degree of motive power, by which they not only urge the blood along their own tubes and into the veins, but by a kind of suction, drive it from the larger arteries, and hurry its current along these vessels." p. 14.

We cheerfully accord to the fact stated above, that the agents at the two extremes of the circulation exert a powerful influence in the propulsion of the blood, yet we are disposed to believe the arterial tubes themselves exercise an influence greater than that ascribed to them, which Dr. S. presumes to be merely owing to the elasticity of their coats; for if we deny them active contractility, then the phenomena alluded to before, viz. the wiry, corded pulse, &c. is altogether unaccounted for.

In the report of the proceedings of the French Academy of Sciences, for April 15th, 1833, we discover that Dr. Tanchou advances views somewhat similar to the above in reference to the capillary circulation. He contends that there is constantly a tendency to the formation of a vacuum by the withdrawal of the constituents of the blood, during the process of secretion, and accordingly there is a steady and uniform afflux or suction of blood to all parts of the body. While this view renders the capillaries independent of the general circulation, and sustains the opinion of a constant imbibition or suction exerted by the capillaries, it differs from our author's views, by depriving the capillaries of a direct and active contractility, and refers the phenomena of this circulation to an established law of hydraulics.

On the subject of the spontaneous cessation of hemorrhage from wounded arteries, although of vital importance to mankind, but little has been added to our stock of knowledge since the experiments of Jones, to ascertain the means employed by nature to arrest the hemorrhage, and to what extent this power was possessed. His experiments induced him to infer that wounds of the larger arteries, unless the injury be peculiar, were inevitably fatal. The process pursued by nature with the smaller vessels consists in the contraction of the vessel, by which its calibre is diminished, and its retracting and drawing its extremity within the cellular coat, the loss of blood at the same time diminishing the activity of the circulation. By the retraction of the extremity, the blood flows into the sheath, and thus deposites a coagulum, layer after layer, until the artery is completely blocked up, preventing the escape of blood from the artery, and arresting it at its termination, by enabling the stagnant fluid to coagulate, and form a plug within the extremity of the wounded vessel. The internal coagulum being less than the calibre of the artery, the powers of life institute a reparative process, by depositing lymph between the coats of the vessel and within its orifice, between the coagulum and the internal coat. The ingenuity of man in every age has been exerted for the purpose of discovering some composition, which, by its chemical properties, might prove to be a perfect styptic. Within a few years past M. M. Talrich and Talmagrand have announced to the profession, a "liquide hæmostatique," which, by its composition, is calculated to arrest hemorrhage from any vessel, however large Upon the introduction of this new styptic into England, Mr. Cæsar Hawkins, in the presence of the inventors, executed several experiments upon animals, and clearly demonstrated that any fluid possessed equal hæmostatic powers with the new French styptic. M. M. Talrich and Talmagrand lost three out of five of these animals; Mr. Hawkins, on the other hand, without a styptic, lost two out of five. Mr. Hawkins is induced to infer, from his experiments, that when an artery is cut transversely or longitudinally, that pressure for ten minutes upon it, with compresses moistened with any fluid, will possibly arrest the hæmorrhage; that a circular aperture made in an artery, can be closed by allowing a diffused aneurism to take place in the adjacent soft parts, and that in either case, the formation of the coagulum, and subsequently the deposition of lymph, is the rationale of the healing process; but if this coagulum is imperfectly formed, or should afterward be disturbed, hæmorrhage will ensue; and lastly, if styptics exert any influence, it is in two ways—by inducing contraction of the coats of the artery,—and by promoting coagulation; but that the "liquide hæmostàtique" does not induce coagulation in a shorter time than the decoction of galls, and that in his experiments, water was equally successful. It is evident from the inferences of Mr. Hawkins, that little or no importance is to be attributed to the use of styptics; but on the contrary, the arrest of hæmorrhage, as was satisfactorily demonstrated by Jones, was dependent upon the nature of the wound, and the means which nature instituted for the reparation of the injury, viz. the contraction of the arterial coats, and the formation of a coagulum, which eventually became intimately united to the adjoining textures.

It had long since been observed, that when a limb is violently torn from the body, the arteries being lacerated, no active hæmorrhage ensued. Cheseldren, in his anatomy, had related a case, in which the arm with the scapula had been torn from the body, without the occurrence of hæmorrhage from the larger vessels, which were lacerated and dragged out. Various, indeed, were the opinions advanced by surgeons to account for this circumstance. Richerand says, that when large arteries are ruptured, they are closed partly by the chill which is produced, causing spasm, and partly by the pressure which the muscles produce when retracting. Mr. C. Bell urges the fact that the inner coat is torn into shreds, producing a valvular structure; Professor Gibson, of Philadelphia, that the injury inflicted upon the adjacent nerves, and a consequent paralysis of the artery, prevents the escape of the coagulum, which is forming at the extremity of the lacerated vessel. But to arrive at the truth, Dr. S. instituted a series of experiments, the results of which justify the following conclusions:

"1st. That Dr. Jones errs in ascribing the cessation of hæmorrhage from lacerated arteries mainly to the same causes which avail against bleeding from divided arteries. In the experiments detailed above, the retraction and contraction of the organ availed nothing. The same was true in regard to the external coagulum, which, according to Dr Jones, is the principal agent. In each of the experiments, the extremities of the vessel were rather dilated than constricted or compressed. In one instance the artery hung naked from the wound, and yet the bleeding ceased as promptly as under other circumstances.

"2d. Equally untenable is the doctrine that the artery is paralyzed by the shock inflicted upon its contractile tissue, and that the blood refuses to flow through a passive tube. In every experiment there was extensive injury inflicted upon the artery, and in one the organ was torn from the surrounding parts to a great extent; consequently its vital intercourse with them must have been for a time interrupted, and its own actions suspended. This paralysis of the artery should be most perfect instantly after the injury; but we find that the blood then flowed in a rapid stream, which was undiminished till it had had time to coagulate. It is true, that in those cases on record, in which limbs have been torn from the body, there has been, even at the moment of the injury, no considerable bleeding. But this has undoubtedly arisen from the shock given to the general system, and the suspension of the action of the heart till the blood had coagulated in the extremity of the artery.

"3d. Although the pockets or valves mentioned by Mr. Bell, were, in one experiment, formed on the sides of the lacerated vessel by the rupture and partial detachment of the inner coat, yet, when the experiment was performed on the living animal, they were not found efficient in suppressing hæmorrhage in a single instance.

"4th. The efficient and almost only cause of the cessation of hæmorrhage from lacerated arteries, is the unequal laceration of the external and internal coats. Generally the internal coat is fractured transversely at numerous places, so as to present an indefinite number of small fissures, into which the blood of the artery is injected, and thence, perhaps, conveyed by interstitial absorption into the arterial tissues. Blood also probably flows from the ruptured tissue, and mingles with that in the cavity of the artery. As soon as coagulation begins to take place, blood concretes, probably first on the fissures produced in the internal coat, attaching itself to the rough surface which is there produced, and insinuating itself into the interstices in such a manner that the coagulum becomes so firmly fixed as to resist the impulse of the circulating blood. When an artery is smoothly cut across, and the integrity of the inner coat is uninjured, the coagulum finds no point d'appui, or roughness upon which it can take hold. The surface is every where polished and lubricated for the very purpose of facilitating the passage of the blood, and therefore the internal coagulum, as it forms, either glides from the artery, where the organ is very large, or perhaps does not form at all, the particles finding no rallying point within the vessel. But when the internal membrane is extensively ruptured, blood must necessarily concrete upon the lacerated surface, precisely as it is uniformly observed to do in other wounds." p. 24.

We cannot pass unnoticed the satisfactory conclusions arrived at, from the above mentioned experiments, and must award onr unqualified approbation to Dr. S. for the careful and faithful execution of his experimental inquiry, which has resulted in a clear and uncontrovertible rationale of the process by which the hæmorrhage from lacerated arteries is eventually arrested. While this explanation satisfactorily accounts for the cessation of hæmorrhage from lacerated vessels, it also sets forth the cause of active hæmorrhage, when the artery is cut across by a sharp instrument, and demonstrates the fact, that truth in reference to physiological laws can never be attained by any process of reasoning, and is only established beyond the fear of contradiction by experiments judiciously and carefully executed. The next section of the work is occupied with a view of the surgical means by which hæmorrhage from wounded arteries is suppressed, and their comparative merits.

The means which we employ are strictly mechanical, and accomplish their end by merely arresting the flow of blood for the time, and allowing the recuperative powers of the system to form, and eventually cement the coagulum to the walls of the wounded vessel. The agents, at present in use, are the ligature, the compress, and the cautery; recently, however, the attention of the profession has been directed to the operation styled "torsion," which consists in twisting the extremity of the vessel, until its inner and middle coats are fractured. The beneficial effects of torsion seem to be confined to the smaller vessels, although many distinguished German surgeons advocate its use on the larger arteries. But while the ligature offers such conclusive and evident proof of its safety and value, we should consider torsion in cases of injury of the large vessels, an abandonment of much safer means, and a recklessness of the well-being of the patient. It would be unfair and injudicious to examine the merits of the several surgical means recommended, by contrasting one with the other, for each has its appropriate place, and would, under certain circumstances, illustrate its utility, and perhaps its decided advantage over its neighbour; thus, to a larger vessel, when wounded and located amidst muscles or any yielding organ, we would apply the ligature; but if the vessel was situated in close proximity to a firm and unyielding organ, as, for instance, the branches of the temporal arteries, ramifying upon the cranial vault, compression would not only arrest the hæmorrhage, but should supersede the use of the ligature by its more speedy and permanent effects. On the other hand, a number of small vessels may be wounded and pour forth from their orifices the vital fluid until exhaustion is threatened, and calls for the attention of the surgeon; here, from the minuteness of the vessels, the ligature is contraindicated, and owing to their location, compression may prove unavailing. We are then driven to the only alternative—the actual cautery. Styptics are rarely relied upon by the intelligent and judicious surgeon, and indeed from the above experiments and conclusions of Mr. Hawkins, we are led to infer, that when any styptic is used, it merely tends to divert the mind, and producing no effect, leaves the entire work to be accomplished by the efforts of the vis vitæ. Secondary hæmorrhage is liable to occur at any period after the application of the ligature; either from disease of the arterial coats, preventing adhesive inflammation;—from the malapplication of the ligature;—and from ulceration or sloughing of the tunics, caused by injury inflicted upon them, by the irritation of the thread, or by a depraved habit of body.

Dr. Smith has described an instrument for the purpose of seizing the artery, and from an examination of its construction, we are led to believe that it possesses advantages over any forceps we have ever seen. It is so constructed as to enable the surgeon, in the absence of an assistant, to catch the wounded vessel, and by the operation of a spring applied to the inner surface of one blade, retains its hold, and by its own weight drags out the vessel, and thereby affords the surgeon the opportunity of applying his ligature. The instrument is the ordinary dissecting forceps with the blades excavated just above the points, in order that they may seize the vessel firmly, and prevent it from slipping. On the inner surface of one blade is a spring projecting and passing through a hole in the other; on this spring there is a catch, which takes hold of the blades when firmly pressed together, and keeps them snugly closed.

The remaining portion of the first part of the work is occupied with the organic diseases of the arteries;—inflammation and ulceration of their coats, and aneurism, and the means recommended for their treatment; but as we purpose noticing briefly the contents of the second part, we must content ourselves with referring the reader to the work itself.

The second part of the work comprises the special anatomy of the arteries, and the surgical points of interest connected with every branch of the arterial distribution. Connected with this part of our work are the beautiful lithographic illustrations of the surgical anatomy of the arteries, accurately copied from Cloquet's Anatomie de l'Homme, and executed in a masterly manner. To the descriptive anatomy of the arteries are appended surgical observations, embracing the accidents and diseases to which they are exposed; the mode of operating in tying them, each important operation being illustrated by a wood cut; the advantage of one method over another; the difficulties to be encountered; and the result in such cases as have demanded the ligature of the larger vessels. It is impossible, in the limits of a review, to do justice to a work so generally descriptive as that of our author; for no one can justly appreciate the advantage conferred upon the professsion by such a work, until he has carefully and closely followed it through its details, and made his mind familiar with its practical bearing, and valuable precepts, and therefore we most earnestly recommend the work before us to all, confident that every individual in the profession may cull from it, valuable and important principles—principles which he is liable at any moment to be called upon to exercise, for the relief of suffering humanity.

To the politeness of the publishers, Messrs. Lucas & Wight, we have been indebted for an opportunity of examining the sheets of this edition, during its passage through the press. On comparing it with the first, we find that important additions have been made to both the pathological and operative part of the work. The lithography too has been improved, and a number of wood cuts have been introduced, illustrative of the method of applying the ligature to each artery, which will greatly facilitate the comprehension of the several steps of the operation.

A. L. W.

COLLECTANEA.

Apis vero ratio media est; quæ materiam ex floribus agri et horti elicit, sed tamen eam propria facultate vertit et digerit.—Nov. Org.

1. *Establishment for teaching Practical Legal Medicine, attached to the University of Berlin.*—In "Horne's, Nasse's, and Wagner's Archives," an account is given by Dr. Wagner of the above establishment, that has no parallel in Europe. Its title demonstrates the objects for which it is intended; but the report as given by Professor Wagner developes them more in detail.

The practical school of legal medicine in the University of Berlin, was opened in the summer session of 1833.

All the cases of legal medicine that have been met with in this city during the year, have been made applicable to the instruction of the physicians and students that belong to the establishment. The mode of teaching pursued is as follows:

At different hours of the day, according to the matter presented, each student is admitted in his turn to look into the cases of living subjects, to perform judicial post-mortem examinations, and to analyze inorganic and inanimate substances; after which he is required to make a report on what has been submitted to him, in the same style as the district physician does. Moreover, the professor meets the students twice in the week, either for the purpose of explaining and discussing the facts already observed, or to distribute new cases among them; or lastly, to refute and pass judgment upon the reports that have been presented to him.

The students are exercised in the proper mode of examining adult and infantile corpses; and every one is aware how much practice and skill is requisite to appreciate the pulmonary docimasia of the latter. Every six months, a course is delivered on the modes of testing the presence of poisons, both mineral and vegetable; the modes these students practise.

The subjects comprised in medical police are included in this course of teaching. The students get an insight into every portion of this branch of judicial medicine, and a detailed explanation is given to them of all the instruments, apparatus, and collections that are necessary to its application. They are allowed to analyze alimentary substances and drinks, and the inspection of drugs is made by them in company and under the direction of a pharmaceutist.

A practical course of veterinary medicine is also connected with the objects of this establishment.

During the first year of its establishment, (from July, 1833 to 1834,) the practical school of legal medicine has been attended by sixty-three students, some of whom are already in practice. The course of instruction has comprehended 253 medico-legal questions, 217 of which refer to living individuals, and 32 to dead subjects (judicial post-mortem examinations,) and 4 required the analysis of inorganic substances.

The inquiries made into the cases of the living individuals turned, in 183 instances, upon the state of the body, and in 34 instances, upon that of the mind. Of the latter, 27 were civil cases, and 7 criminal.—*London Medical and Surgical Journal, June*, 1835.

2. *Remarks on the use of Oiled Silk and Warm Water dressing.* By Mr. Liston.—The plaister used by Mr. Liston to recent wounds, such as after amputations, &c. is composed of a spirituous solution of isinglass, spread over oiled silk; the solution is spread, when hot, on strips of the silk, and applied immediately. After amputations, the strips are used of considerable length, so as to give support to the flaps, and an interval is left between each, to allow the escape of matter, should adhesion not take place. Mr. Liston has used it for some years, and has found it to succeed in almost every case. It is easily applied, does not heat the limb, as the usual mode of dressing does, is easily removed in case of secondary hemorrhage, allows the escape of offensive matter, and prevents the fœtor attending the confinement of the discharge; often the wound does not require a second dressing, and the plaister frequently supersedes the necessity of a bandage. The use of warm water dressings, as employed by the same surgeon, consists simply in pledgets of lint, the size of the ulcer, dipped into warm water, and applied to the part, a piece of oiled silk a little larger being placed over it to prevent evaporation. It is found, in some cases, quite effective without the assistance of any other remedy; occasionally some slight astringent, such as a weak solution of sulphate of zinc or copper is indicated.

Both dressings are cleaner and less painful than any other; the last does not require a sponge; indeed, there have been no sponges used in the hospital for some time, except during operations. Mr. Liston said he had dispensed with them at Edinburgh, as he had seen the indiscriminate use of the same sponge by the various patients, attended with the worst consequences. It was often the cause of the spreading of one description of ulcers, of a malignant character, through the wards of the hospital.

It is not for the medicinal use of the water, as stated by a late writer on the subject, that this dressing is applied, it is in place of a poultice. It is by no means a novelty: many surgeons in the army and navy have employed it for years with success.—*London Medical and Surgical Journal, June*, 1835.

3. *Curious Case in which Sand and Gravel Stones were found in the Trachea after drowning.*—C. F. H. aged 23, had been subject to epileptic fits since October, 1830, with intervals of a week or a fortnight. On the 5th of May, 1833, he was found dead in a rivulet; his face downwards, the head covered with the water, which was not a foot deep, and which therefore did not cover more than half his body.

On examination of the corpse, the most remarkable thing found was a quantity of sand and gravel stones of various sizes, in the trachea, below its bifurcation into bronchi; the largest of these stones was square, weighed at least a drachm, was half an inch long and broad, and half a line in thickness. It is almost impossible to conceive how this stone, which resembled others on the bed of the rivulet, could have passed through the glottis. A great quantity of the sand filled the bronchi, and some of it was even found in the pulmonary vesicles: the whole quantity of sand found weighed between three and four drachms.

This is an exceedingly rare case: Orfila mentions only one such out of 50 cases of drowning (Dict. de Med. t. 20, p. 26.) The size of one of the stones, which exceeded the capacity of the glottis, proves that it could not have entered the trachea by a mere mechanical descent after death: but it renders it probable that it had been swallowed in the last moments of agony.—*Medicinisches Correspondenz--Blatt.—Lond. Med. & Surg. Journal, June,* 1835.

4. *On Serous Effusion from the Membranes and into the Ventricles of the Brain, and its Connection with Apoplexy, and the Disorder allied to Apolexy.* By Dr. John Sims, physician to St. Marylebone Infirmary.—Of this essay it is difficult to give a sufficient account within the limits to which our plan restricts us. It seemed to be the result of extensive original pathological inquiries and of much "patient thought," and contained so much fact, and so little speculative matter, as to be ill adapted for condensation, consistently with justice to the author. The main scope of the learned author's argument seemed to us to be, to prove that the principal, if not the sole, cause of the disease usually termed serous apoplexy, is preternatural accumulation of blood within the cranium, and compression of the brain thence exclusively arising; and that the serous fluid so often found on examination of these apoplectic subjects, is referable to exudation from the vessels, directly and indirectly—to atrophy, and consequent diminution of the brain, and a physical tendency thence arising to extravascular accumulations. After shewing the general prevalence of the opinion (although opposed by several practical writers) that apoplexy may arise from serous effusion and consequent cerebral compression, by extracts from some standard works, and by reference to the statements of medical men as witnesses in coroner's courts, and, in private practice, in cases of post-mortem investigation or persons dead of apoplectic symptoms, in whose bodies no sanguineous congestion or effusion is detected, the author proceeded to relate the particulars of seventy cases, in confirmation of his views.

These cases the author distributed into five sections, of which the 1st consisted of a tabular view of fifty cases in which serous effusion was found in the ventricles or under the meninges, without any cerebral symptoms whatever before death; the subjects having died at various ages, from under ten to over seventy, (but nearly half between fifty and seventy,) and of various diseases, chiefly of the viscera, of the thorax and abdomen; mostly chronic. 2. The second contained particulars of four cases of copious serous effusion, in subjects in whom old apoplectic cysts were found, with or without paralysis; death arising from diseases not cerebral. 3. Six cases of serous effusion of long standing, with old apoplectic cysts, and recent fatal sanguineous extravasations. 4. Four cases of fatal simple sanguineous apoplexy. 5. Five cases of serous effusion of long standing, with congested or diseased vessels, and such as are usually considered examples of serous apoplexy, but which the author regards as instances of simple sanguineous apoplexy.

From the whole body of his cases and observations, the author conceived himself fully borne out in the following summary statement, with which he concluded his essay. 1st, That very copious effusion is found between the membranes, and in the brain, of persons of all ages, (and more especially between the ages of fifty and seventy years,) who have died of various diseases of the thorax and abdomen, and who manifested no appreciable symptom of cerebral disease during life; and that under similar circumstances, various other morbid appearances are found in the brain—as thickened membranes, diseased blood-vessels, tumours, &c.

2d. That effusion of serous fluid into the ventricles and membranes, to a very considerable extent, exists in the brain of persons who have suffered previous apoplectic attacks, attended with general or partial atrophy of the brain; and that, most probably, this effusion and atrophy have existed for many years, without producing the disease termed serous atrophy; for that persons so circumstanced live to an advanced age, and are destroyed by other maladies.

3d. From the cases of subsequent and fatal attacks of apoplexy occurring in persons in whom the brain had long contained a large quantity of fluid, it is probable that the brain, from this cause, is rendered less impatient of injury from extravasation of blood. This position is exemplified in a remarkable manner in the case of extravasation into the ventricles, and in that of extravasation on the surface of the brain.

4th. Seeing that it is acknowledged generally, that a merely loaded state of the blood-vessels is sufficient to produce all the symptoms of sanguineous apoplexy, and to occasion death, it is probable that when this state of the vessels is found, connected only with a small quantity of fluid in the membranes or ventricles, death has been occasioned by simple sanguineous apoplexy.

5th and lastly. The conclusion is highly probable, that in many instances of sudden or speedy death, which have been supposed to have been occasioned by the presence of serous fluid in the membranes or ventricles (discovered on dissection) the effect is not attributable to that fluid, or to serous apoplexy, but to simple sanguineous apoplexy, the fluid in the brain having nothing to do as a cause with the fatal event.—*London Medical Gazette, for June,* 1835.

5. *Treatment of Recto-vaginal communication.* By Sir B. C. Brodie.—The communication between the vagina and rectum used to be one of the approbriums of our art, the patient's life being rendered miserable, with little or no hopes of recovery. Of late, however, a simple and scientific method of relieving the patient in these cases has been contrived by Mr. Copeland, who has succeeded in curing several patients labouring under it, simply by dividing the sphincter muscle of the anus. The sphincter muscle being divided, the fæces are not retained in the rectum; they run out as fast as they enter it, so that the bowel is kept empty and contracted, and altogether in a passive state, and the communication between the rectum and vagina is thus enabled to cicatrize. I do not know whether this would answer if the communication were of large size, but I am told that it has answered very well in the cases in which Mr. Copeland has hitherto employed it. I cannot but regard the application of this operation to these cases as one of the principal improvements of modern surgery; and the simplicity of the practice forms one of its

principal recommendations. Of course it can be recommended in those cases only in which, independently of the opening into the vagina, the parts are in a healthy state.—*Ibid.*

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6. *Camphorated Citrine Ointment in Hydrocele.*—A few weeks after a fall which occasioned an inguinal hernia, the right testicle, without any evident cause, began to swell, and became too painful to be handled. (The accident occurred to our correspondent.) This was soon followed by hydrocele, when the pain, which had by this time abated considerably, went off gradually, but the swelling seemed to be stationary. Meanwhile the hydrocele increased, and caused much suffering from tension of the scrotum. I consented to have the water drawn off, but in the interval a different mode of treatment occurred to my mind. Having frequently witnessed the beneficial effects of the citrine ointment, (*Unguentum Hydrargyri Nitratis,*) with camphor in cases of glandular and other indurated tumours, I thought it would also excite the torpid absorbents in those of an aqueous kind, and therefore preferred this trial to that of the knife. In applying it I grasped the left or sound side of the scrotum firmly, so as to make the tumour as tense as possible, and then rubbed a small quantity of the ointment (about 25 or 30 grains) over its surface for a due length of time. This I repeated every evening as long as it was necessary, generally before a fire. After using the ointment for a week or ten days, the tumour was evidently diminished in a bulk, and, persevering with it some time longer, the tumour eventually disappeared. In the meantime there was little alteration in the swelling of the testicle, but as it gave me little or no pain, except when handled, I left it to its own vis medicatrix, and that was slow enough, as it was fully three months before it was reduced to the size of the other. The hydrocele has never returned in any way. The citrine ointment was made by adding a drachm of camphor to an ounce of the ointment.—*London Lancet, May,* 1835.

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7. *Catechu in Mercurial Ptyalism*—Capt. B. twenty-five years of age, having had occasion to undergo a short course of mercury, whilst his regiment was encamped near Harwich, during rather a cold summer, unexpectedly experienced, about the fifth day of the course, approaching ptyalism; and when I was summoned to visit him in the evening, I found him in bed, spitting, or rather slavering, profusely, and presenting a picture of despair, from distress of mind, occasioned by his situation at a moment when he was daily expecting a visit from a party of valued friends, most of them females, to the camp. It was no easy matter to determine under these urgent circumstances what means to use. I had long ago proved the utter inefficiency of alum, opium, and other reputed antidotes against salivation, and at last I thought of catechu, of which I had made a strong decoction for some other purpose, though it was a remedy as yet untried, at least by me. To be brief, I desired my patient to take a wine-glass-full (about ℥ ii. to ℥ iiss.) of this decoction every two hours, or even oftener, if his stomach would bear it; and also to gargle his mouth and fauces as frequently as possible with the same. The result was, that when I visited him early on the next morning, the spitting had entirely ceased, and every other sign of the effects of mercury had wholly disappeared, debility from the ptyalism alone excepted. I think that since

this case occurred I have had further proof of the efficacy of catechu in obviating the ultimate effects of mercury, and I invite your numerous readers to make trial of it in cases of mercurial ptyalism. Instead of ℥ iiss. of catechu to half a pint of boiling water, according to the London Pharmacopœia, I use at least ℥ iij. to that quantity of boiling water; for whether infusion or decoction be used, it ought to be made as strong as possible.—*Ibid.*

8. *Treatment of Ozœna.* By M. Trousseau.—In some observations on this troublesome, and often incurable disease, M. Trousseau makes the following remarks; my chief reliance in the treatment of ozæna and other chronic affections of the lining membrane of the nose. I employ it either in powder or solution. The first is either blown into the nose by the physician, or snuffed by the patient. The solution should be injected, in preference by the physician himself. The following is the powder I employ:

℞. Protochloride of mercury, grs. xxiv.
Red precipitate, xii.
Sugar candy in powder, ℥ ss. M.

The following is the solution:

℞. Corrosive sublimate, ʒ ii.
Dissolve in a sufficient quantity of rectified alcohol,
and add distilled water, ℥ xii.

A small pinch of the powder must be forcibly snuffed up the nose by the patient eight times a day, the nostrils being previously cleansed of mucus. One or two tea-spoon-fulls of the solution should be added to a wine-glass full of teped water, and thus diluted, it may be either snuffed up the nose or used as an injection.—*Journal des Connaissances Medico-Chirurg. Mai,* 1835.

9. *Retention of Urine occasioned by a Calculus lodged in the Pelvis of the Kidney, with absence of the right Kidney.*—The subject of this case was an English soldier, aged 36, who was attacked on the 20th of June, with retention of urine. Some years anterior to this period, he had passed a small calculus from the urethra, which, however, occasioned him no inconvenience, and since that time he had enjoyed good health. Eight days anterior to the time of his admission into the hospital, he was seized, after a chill, with pain in the left side and fever. The pain continued to increase during four days, at the end of which time, retention of urine took place, and he was unable during the four succeeding days to pass any water. The desire to void urine was at first slight, but afterwards became more urgent. On examination, it was found that the bladder was not distended, nor was there pain either in the region of that organ, or in the abdomen, on pressure. The patient complained constantly of pain in the left lumbar region, but when this part was pressed, it did not manifest much tenderness. On the introduction of the catheter into the bladder, which was accomplished with great ease, no urine followed. The patient had no appetite; was, however, thirsty, and vomited every thing taken into the stomach. He complained as little of pain in the left leg as in the shoulder of the same side; his perspiration exhaled no urinous odour, and the pulse was nearly natural. He was exceedingly restless, tossed almost inces-

santly, and uttered constant complaints, although it was impossible to fix upon any point as the seat of his distress. He was besides unable to sleep.

We suspected an incipient or fully developed nephritis, and an active antiphlogistic course was instituted, consisting of venesection, leeches to the left lumbar region, cataplasms, nitrate of potass, &c. On the night after his admission, and during the following day, the patient was delirious; the pain diffused itself over the abdomen, but was abated by the use of calomel, opium, and poultices, and again concentrated itself in the left side, in which situation it was now more intense than before. The repeated introduction of the catheter showed that there was no water in the bladder, and the passage of the instrument was now attended with some pain. Water was injected through the catheter into the bladder, but only that which was thrown up returned tinged of a brown colour. After these injections, the desire to void urine was increased, but the efforts proved ineffectual. The vomiting became more frequent, and, on the third day, the patient was affected with hiccup, which recurred on the fourth. The fever, delirium, and restlessness continued to augment in intensity, and he died on the morning of the fourth day.

Dissection.—The left kidney was completely surrounded by a mass of fat, and enlarged to twice its natural size. The surrounding cellular tissue was of a deep red colour, and in the pelvis of the kidney just above the commencement of the ureter was impacted a calculus, which was so firmly lodged that no urine could pass it. The pelvis of the kidney was very much dilated, but the urethra was perfectly natural. The bladder contained a small quantity of mucus, but no urine. The *right kidney was altogether wanting*, and its place was supplied by a small rudimentary mass not more than half the size of one of the suprarenal capsules. To this mass the emulgent artery was distributed, which was not larger than the spermatic artery, and its corresponding vein was of the same size. The emulgent artery took its origin from the aorta. The ureter on this side was as large as a crow quill, and though its canal was smaller, it was nevertheless pervious, except to the extent of two inches from where it united with the rudimentary mass which supplied the place of the kidney.—*Frick Annalen der Chirurgischen Abtheilung des allgemein Krankenhauses in Hamburg.*

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10. *Double Uterus.* By Dr. Albers, of Bonn.—The subject of this case was a female, aged 64, who from childhood had never enjoyed perfect health. The ordinary development of the mamma took place at the age of puberty, but the menses never appeared. Once a month, however, she suffered continuous lancinating pains in the left hypochondrium, associated with vomiting, and a dragging or bearing down pain about the pelvic region. At the age of 29 years, she was attacked with fever, attended with vomiting, violent pain of the head, and a bearing down pain about the lower part of the abdomen. On this occasion a small quantity of blood was discharged from the vagina. These attacks of pain of the side and vomiting continued to recur at intervals, but without any repetition of the discharge of blood. When she was 46 years old, on the occasion of one of these paroxysms, Dr. A. proceeded to examine the condition of the genital organs. The external parts were properly formed and covered with hair; but the vagina was found to be only an inch in length, and terminating in a blind extremity, beyond which no solid body could be

discovered corresponding to the situation of the uterus, so that it might have been inferred that this organ was wanting. The breasts were properly formed. After some years, she experienced a recurrence of her sufferings, which were now associated with difficulty of voiding urine; and after suffering a fortnight, she died.

The cavities of the head and thorax were healthy. In the abdomen, however, the redness of the peritoneum, the false membranes adherent to that structure, together with the albuminous effusion into its cavity, clearly demonstrated that death had been occasioned by acute peritonitis. The vagina was only half an inch in length, and ended in a blind extremity. About an inch and a half above, placed somewhat laterally, were found two bodies of the size of a large walnut, which were somewhat elongated, but presented no manifest connection with the vagina. From each of these bodies an elongated bundle of a fibrous structure ranged upwards and outwards, and terminated near another body, which was supposed to be the imperfectly developed and diseased ovary. The two first bodies were separated from each other by an interval of about three lines, and when laid open, each of them presented a small elongated cavity, containing some thick mucus, and lined by a membrane of a mucous character. The walls of this cavity were about two lines in thickness, and were composed of a white fibrous tissue. These two masses were rudimentary uteri, but neither the round or broad ligaments of that organ could be distinguished in the surrounding cellular tissue.—*Rust's Magazin der Gesammte Heilkunde.*

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11. *Horny excrescence of the Penis.*—An individual labouring under venereal disease which he neglected, finally became affected with condylomata about the prepuce. The margin of the latter became indurated and of a horny consistence, and several excrescences sprang up beneath it, which were uneven on their surface. One of these attained an enormous development. It extended off from one side of the penis in a spiral direction, and measured about two inches and a half in length. This excrescence was of a dark brown colour, semi-transparent, and resembled a piece of tortoise shell in its appearance. It was of a horny consistence, and might be compared to a piece of horn which has been softened by some oily substance. The diseased mass was excised with scissors by Dr. Alter, and when it manifested a disposition to be re-produced, the operation was repeated. The wound healed kindly, and the individual was directed to take internally the liquor *hydrarg. nitrici,* after which the disease did not return.—*Rust's Magazin der Gesammte Heilkunde.*

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12. *Fissures of the Cranium of new-born Infants.* By DR. LUD. CASP. JAC. VON SIEBOLD.—The woman whose offspring formed the subject of the present case, became pregnant for the third time, had a narrow pelvis, and was delivered by the unassisted powers of nature, of a stout well-formed female fœtus, which weighed six pounds. It however manifested no signs of life. On dissecting up the scalp, besides the other ordinary appearances of swelled head, a great quantity of blood was found extravasated upon the surface of the cranium on the left side. The left parietal bone was found thrust under the right along the sagittal suture, which deformity was greatest in the

vicinity of the greater fontanelle. The lambdoidal suture presented a similar overlapping of the bones, though in an inferior degree. The left temporal bone stood preternaturally outwards, and the whole head presented a deformed irregular appearance. In the left parietal bone three fissures were discovered, the largest of which ranged from the tuber obliquely upwards to the sagittal suture. In the vicinity of this point, the fragments were most separated, the fissure becoming narrower towards the tuber: it was about an inch and a half in length. The second fissure extended from the left coronal suture a little above the middle of the parietal bone, to the tuber of the latter, and measured an inch in length. The third was situated a little below the preceding, and, although its length was inconsiderable, its edges gaped more than in the others. The fourth fissure occupied the left frontal bone, and in the vicinity of it was found a considerable suggillation of the scalp. It ranged forwards, and terminated a little below the tuber of the bone after extending about an inch. It is probable that the first fissures were occasioned previously to the others, by the pressure of the head against the promontory of the sacrum, while that of the frontal bone took place during the revolution of the head in the act of expulsion. The vessels within the cranium seemed to have sustained considerable injury, as when the head was compressed, a considerable quantity of blood issued through the fissures.

Independently of other considerations, this case is important in a medico-legal point of view. The evidences of violence presented by the head, might, under suspicious circumstances, have been by some construed into a proof of infanticide, yet the circumstances of the case demonstrate the impropriety of attaching much importance to such injuries except where corroborative evidence can be drawn from other criteria. Such cases shew forcibly the necessity of great circumspection on the part of medical witnesses, and the absolute impropriety of pronouncing positively upon the commission of a crime from a few isolated data.—*Siebold ueber Fissuren am Kopfe Neugeborner bei naturlicher Geburt*, 1832.

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13. *Ossification of the Veins.*—In the body of a woman, aged 50 years, who died of cancer of the stomach, Schlemm found a varicose saphena vein of the right leg in a state of ossification. The length of the portion of the vein thus affected, was four and a half inches, when its convolutions were not unfolded, but when extended, measured seven inches. It was very much thickened, and hard to the touch; but this hardness and stiffness was interrupted at several points, so as to impart to the vessel a flexible articulated arrangement. Throughout the whole extent, with the exception of the small flexible points already mentioned, a hard substance was deposited between the two coats of the vein. This adventitious deposite was more irregular than those which form in the arteries, but was more unusually cylindrical, or *triangulo-cylindrical*, and in most situations, nearly equalled in thickness the diameter of the lumen of the vessel. At intervals, the coats of the vein seemed to be flattened and adherent, occasioning obliteration of the cavity. At no point, as far as the vein was opened, could any destruction of its internal tunic be discovered, which so often takes place in the arteries. The concretion could be easily separated through this membrane, but with difficulty through the outer coat, which was thick and uneven. Nor did the concretions at any point surround

the entire vessel, but were confined to one side. Their thickness, however, at several points, was such as to fill up the whole cavity of the vein. In their colour, these masses resembled bone, but examined with the microscope, they exhibited no cellular structures, though they presented many irregular excavations.—*Phœbus, de venarum osseis et calculosis. Berol.* 1832, *and Hecker's Wissenschaftlichen Annalen.*

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14. *Earthy Concretions in the cavity of the Veins.*—In the vesical vein of a female, aged 80, the uterine veins of whom, contained within the pelvis free calcarious masses, and the heart and aorta points of ossification, Dr. Becker found a globular, yellowish white mass, of a very hard consistence, which was composed of internal concentric laminæ.

In a woman, aged 46, who had died of cancer of the uterus inflicting extensive ravages upon the surrounding parts, there was formed in the left vesical vein, near the opening of the ureter, a small hard globular body as large as a pea, of a yellowish white colour, which, when struck with a metallic body, emitted a sound as though it were hollow. After it had remained with the other parts of the preparation in alcohol for about a year, it was taken out, and divided with a fine saw. It was found to be composed of two substances; one of which was of the yellow colour of unbleached bone, but did not present the cellular texture peculiar to the osseous tissue; the other, in smaller quantity, was very white, and was much more fragile and pulverulent. They were both disposed in irregular alternating concentric lamina. The mass contained two small irregular cavities, which were separated by a kind of partition. They were occupied by a small quantity of a white coloured, soft substance, which, when exposed to the air, acquired the consistence of chalk or lime. The concretion was attached within the vein by a loose cellular covering, which was not smooth, but presented numerous irregularities upon its surface. From this, however, it was detached with great ease. The veins were dilated throughout the whole of the diseased parts. In many of both the small and large ones were found masses of coaguli, and that which contained the concretion was obliterated above and below, so as to have the mass contained as it were in a cyst.

In the vesical vein of a man, aged 33, a globular concretion of the same appearance and composition was formed. The small vein opposite the concretion had its walls so distended as to present a globular figure, and was rendered almost transparent.

In the vesical veins of another man, several concretions were discovered. The smallest were nearly globular; the largest oblong, seven lines in length, by two and a half in diameter; smooth externally; of a yellowish white colour, and when sawed through the centre, its internal structure was found to be composed of two kinds of substance. One of these was yellowish and compact; the other white and more friable. They were disposed in irregular concentric layers, and the mass itself was surrounded within the vein by a thin adventitious covering of cellular tissue.

Two similar concretions were found in the veins of the prostato-vesical plexus of an old man who had suffered much from catarrhus vesici. The larger of these, of the size of a common pea, presented the same characters as those mentioned above. The smaller, however, which was about two millimeters in diameter, was found, when sawed through, to be composed of yellowish coloured concentric layers, between which, scarcely a trace of the white matter could be discovered.

Froreip found in one of the prostatic veins of the left side of a man, aged 50, a free concretion, as large as a pea, which was smooth on the surface, nearly globular, of a brownish grey colour, and of the consistence of fibro-cartilage. When divided with a scalpel, it presented a compact fibrous texture disposed in concentric layers, of the same colour as the exterior. The vein was somewhat dilated, but, in other respects, healthy.

In a case observed by Schlemm, the spermatic vein was double, and in each one a small concretion was formed. One of these, as large as a pea, and of a globular figure, was of a bony consistence externally, but contained within a pap-like, or chalky material. The other was smaller, and smooth on the surface. The first was attached to the walls of the vein, but the other was entirely free.

In the uterine veins of both sides of a female, aged 80 years, those vessels were found filled throughout the whole course, with cretacious concretions, which filled their entire cavity, and took their figure from the surrounding walls. These concretions were smooth, and of a brownish yellow colour externally; but when broken transversely, the fractured surface exhibited a lighter hue, and in the centre a small aperture, the remains of a regular canal, with even walls which traversed the recess, except at its extremities. This canal, however, near the centre of the concretion, approached here and there nearer to one surface than the other, and at some points was so small as to be scarcely visible.—*Phœbus, de concrementis venarum osseis et calculosis. Comment. pro. venia docendi, &c. Berol.* 1832.

15. *Nitrate of Silver in Tonsilitis.*—It is well known that no disease is more likely to recur than suppurating tonsilitis, which, under the name of quincy, will return upon some persons, on the slightest exposure to a cold and damp atmosphere, subjecting him to repeated suppurations. It is perhaps not generally known, that on the access of this malady a vigorous and early application of lunar caustic, in the solid form, or dissolved in rain water, in the proportion of eight or ten grains to the ounce, will more certainly arrest the inflammation and prevent an abscess, than any other method of treatment. If, however, there should be fever, venesection and an emetic should be premised. The application of solid caustic to the tonsils until they "turn pale," gives but little pain. If it should escape from the quill and be swallowed, it may be decomposed with salt and water, or a solution of sulphate of magnesia.

[*Western Journal of the Medical and Physical Sciences, for July*, 1835.

16. *Chalybeates in Dropsy.*—Dr. William Pettit, of Columbiana county, Ohio, has sent us a paper commending the use of rubigo ferri mixed with port wine, in the treatment of dropsy. He thinks that the influence of Dr. Rush, in favour of the antiphlogistic method, has had, in many instances, an unfavourable effect on the practice of American physicians. Dr. Pettit states, that his attention was some time since directed to this medicine, by Dr. Isaac Parker, of Jefferson county, in this state, an old and respectable

physician, who assured him that he was generally successful in the management of ascites and anasarca, by means of the following preparation:

℞. Carbonate of Iron ℥i.
Port Wine ℔.
Mix.

Agitate when used, and give half an ounce three or four times a day.

Dr. Pettit has given two successful cases in detail. We shall abridge one of them.

A lady aged thirty-six years, after the birth of her third child, became ascitic, and in despite of a great variety of means, administered by different persons, both in and out of the profession, continued in that state for several months. When called to attend her, Dr. Pettit resorted to tapping and drew off thirty-eight pints of fluid. He then gave her the German mixture of cream of tartar, sulphate of potash, squills and tartar emetic, but symptoms of re-accumulation ensued. In this exigency he had resource to the rubigo ferri in port wine, which was perfectly successful. She subsequently became pregnant, when dropsical symptoms again returned, but were promptly arrested by a resort to the chalybeate.

We think it probable, that while some cases of dropsy requiring antiphlogistics are improperly treated in the opposite way, others are prolonged, or rendered fatal, by an adherence to the former, when the latter method is required. The books would no doubt furnish authority for giving sedative and refrigerant diuretics, like those administered to this lady, after the operation of paracentesis, but such a practice rests on no solid foundation. Tapping should never be employed as long as there is active or even sub-acute peritonitis, and after it is subdued; whether the water be drawn off or not, tonics, among which none are superior to the chalybeate preparations, are undoubtedly the proper remedies.

We would here inquire whether any of our readers have given a trial, in dropsy, to the sulphate of iron, in drachm doses, as recommended by the physicians of the Italian school? If so, we should like to be informed of the results of their practice, and would make them public.—*Ib.*

17. *Exemption of certain parts of the Delta of the Mississippi, from Autumnal Diseases.*—In an interview which we lately had with the very intelligent and respectable Dr. Cartwright, of Natchez, he pointed out certain parts of the Delta of the Mississippi, which are proverbially exempt from summer and autumnal diseases, and deserve, in his opinion, to be classed among the very healthiest portions of the Union. They are the banks of the numerous bayous and lagunes (obsolete mouths of the Mississippi,) between the thirty-first degree of latitude and the Gulf of Mexico, lying west of Lafourche. The water in these bayous, five or six in number, is stagnant. On either margin there is a slip of land from a quarter to half a mile in width, that is sufficiently high to be cultivated; back of this slip is a cypress swamp, then a shaking prairie, and then a lake, the banks of which are uninhabitable. The water of the bayous although stagnant is clear, and almost hidden by aquatic plants, one species of which, the most abundant, is unconnected with the soil and floats in the water—having a knotted horizontal root, resembling that of the cane. Another appears to be the *pistia stratiotes* of the botanists.

From observations and inquiries made on the spot, and on similar localities in other parts of Louisiana, where the current of the bayous prevent the growth of these vegetables, Dr. Cartwright has come to the conclusion, that the sole cause of the great salubrity of the places referred to, is their action on the waters and the air; and, in accordance with these views, has taken measures to introduce them into the lakes further up the Mississippi, the shores of which are now infested with bilious fevers.—*Ib.*

18. *Winter Retreat for those inclined to Pulmonary Consumption.*—The gentleman just quoted, has expressed to us the opinion, that the maritime portions of the state of Mississippi, lying below the thirty-first degree, and between New Orleans and Mobile, constitute one of the best retreats in the United States, for persons who are threatened with pulmonary consumption. They, however, in whom the disease is established, should not leave home for that or any other place in the South, as it has appeared to him, that a southern climate has rather accelerated than retarded the fate of such patients, which is very much the result of our own observation. The soil and climate of the tract of country, to which we have alluded, are described by Dr. Cartwright, as sterile, temperate, and comparatively free from humidity.—*Ib.*

19. *Hot Douching in Sprains and Bruises.*—It is not uncommon to see cold water applied forthwith to parts which have been strained or bruised, while a state of nervous irritation and reduced circulation, still exists in the general system. This practice we take it, is radically wrong. Some years since, a judicious non-medical acquaintance took some pains to impress upon us the results of his own experience in favour of hot bathing in cases of this kind. After having given the practice a "fair chance," we are enabled to speak of it in terms of decided approbation. It is especially adapted to persons of a nervous and irritable temperament. We have at this time a patient whose case is in point, and has, indeed, suggested the propriety of this notice. In jumping from a high fence, she lit upon the outside of her left foot, and when taken up was unable to stand. Considerable tumefaction immediately followed, with a total inability to move the ankle-joint. Extensive ecchymosis has since ensued, around and above and below the outer ankle. Being kept in a horizontal posture, with her foot over a tub, hot water was poured over it by the hour, and repeated as often as the pain recurred. She is now convalescent, without the slightest symptom of inflammation. We need scarcely add, that *should* inflammation ensue, in a case of this kind, the hot water would not be the best remedy, being, in reference to that pathological state, preventive not curative.—*Ib.*

VARIETIES.

Editorial Notices and Acknowledgments.

Messrs. Carey, Lea, and Blanchard are about to put to press a Treatise on General Therapeutics, by Professor Dunglison. The well known abilities of this gentleman afford every assurance, that in this work he will supply a desideratum which has long been felt in this country. The same publishers will also shortly issue *Clark's Treatise on Pulmonary Consumption.*

We have to acknowledge the following publications, which have come to hand during the preceding month.

The Cyclopædia of Anatomy and Physiology. Edited by Robert B. Todd, M.B. Lecturer on Anatomy and Physiology at the Westminster School of Medicine, &c. &c. Part I. from *Abdomen* to *Animal kingdom.* London, Sherwood, Gilbert & Piper.

This work "is intended to embrace the whole of the sciences of Anatomy and Physiology, those terms being used in their largest sense as regards the animal kingdom." Besides the healthy and pathological anatomy of man, it will embrace the anatomy of the inferior animals, considered in groups according to the ordinary zoological principles of classification. It will also comprise a full exposition of the present state of physiological science.

The work is to be published in numbers of 112 pages each, printed in double columns, one number to appear on the first day of every second month, until the whole is completed, which, it is supposed, will require 20 parts.

The articles on Comparative Anatomy contained in the present number, viz. *Acalephæ*, by Dr. Coldstream; *Acrita*, by R. Owen, Esq.; *Amphibia*, by T. Bell, Esq.; and *Animal Kingdom*, by Prof. Grant, (*unfinished*,) we have read with great pleasure. Those on Human Anatomy and Physiology, though highly useful, are not what we have a right to expect in a work devoted exclusively to Anatomical and Physiological science in its fullest extent. The numerous wood-cut illustrations, which accompany the articles on Comparative Anatomy, add greatly to the value of the work.

Discourse on Self-limited Diseases, delivered before the Massachusetts Medical Society, at their annual meeting, May 27, 1835. By Jacob Bigelow, M.D. Fellow of the Massachusetts Medical Society, and Professor of Materia Medica in Harvard University. (*From the author.*)

The subjects of this very able address, deserve the attentive consideration of every member of the profession.

The Cholera Beacon, being a treatise on the Epidemic Cholera as it appeared in Upper Canada in 1832-4: with a plain and practical description of the premonitory symptoms, &c., designed for popular instruction. By Elam Stimson, M.D. (*From the author.*)

Journal des Connaissances Medico-Chirurgicales, for July, 1835. (*In exchange.*)

The American Journal of Medical Sciences, for August, 1835. (*In exchange.*)

The American Journal of Pharmacy, published by the authority of the Philadelphia College of Pharmacy. New series, Nos. 1 and 2, for April and July, 1835. (*In exchange.*)

We cannot better express our opinion of this valuable publication, than by the declaration, that it ought to be in the hands of every physician and apothecary in the United States.

The United States Medical and Surgical Journal, No. 12, for July, 1835. (*In exchange.*)

The Medico-Chirurgical Review, for April, 1835.

The Boston Medical and Surgical Journal, Nos. 25 and 26 of vol. xii., and Nos. 1 and 2 of vol. xiii. The editor will greatly oblige us if he will send us No. 10 of vol. x. and Nos. 6, 7, 8, and 9, of vol. xi. as those numbers have not come to hand.

The Western Journal of the Medical and Physical Sciences, for July, 1835. (*In exchange.*)

We would respectfully ask of the Editors of the Medical Magazine to send us No. 7 of vol. i. Nos. 15 to 24, inclusive, of vol. ii. and No. 8 of vol. iii. as we have not received those numbers.

Of the Editor of the Transylvania Journal we would beg the favour to send Nos. 1, 2, and 3, of vol. 6, of his periodical, also the number for July, 1835, which we have not received.

With all these gentlemen, or any of our other cotemporaries with whom we have the honour to exchange, we shall be happy to reciprocate the favour, should they be in want of any numbers of our Journal.

Errata.—In Dr. Hulse's paper, No. x. p. 255, in the tenth line from the bottom, "The chief element in the generation of diseases" should read, the chief element in the generation of *these* diseases.

The lithographic illustration of Professor Smith's case of Extirpation of the Thyroid Gland, could not be obtained in time for our last number. It is subjoined to the present, and can be transferred to the proper place, page 309, by the binder.

ADVERTISEMENTS.

CINCINNATI COLLEGE.

MEDICAL DEPARTMENT.

The session will open on the last Monday of October, and continue to the end of February. Full courses of Lectures will be delivered on all the branches of the profession.

Joseph N. McDowell, M. D. *Special and Surgical Anatomy.*

Samuel D. Gross, M. D. *General and Pathological Anatomy, Physiology, and Medical Jurisprudence.*

Horatio G. Jameson, M. D. *Surgery.*

Landon C. Rives, M. D. *Obstetrics and the Diseases peculiar to Women and Children.*

James B. Rogers, M. D. *Chemistry and Pharmacy.*

John P. Harrison, M. D. *Materia Medica.*

Daniel Drake, M. D. *Theory and Practice of Medicine.*

John L. Riddell, M. A. *Adjunct Professor of Chemistry and Lecturer on Botany.*

Six Lectures will be delivered daily, throughout the session.

Mr. Riddell will teach a private class on Chemistry, by examinations and familiar modes of illustration. His lectures on Botany, strongly recommended by the Trustees and Faculty, but not requisite to graduation, will be delivered in spring and summer.

The price of the ticket of each professor will be fifteen dollars, making an aggregate of one hundred and five—the matriculation fee, two dollars—the dissecting ticket, ten dollars; and the graduation fee, twenty dollars.

Those who intend to graduate must take the tickets of the professors before the 20th of November. No student will be admitted to examination for a degree who is not 21 years of age; of good moral character; has not studied medicine with a private preceptor for three years, including the time of his attendance on the lectures; and has not attended two full courses in this College, and taken the dissecting ticket once, or one in some chartered institution, having not less than five professors, and another in this college; but physicians who have been in separate practice four years, may become candidates after attending a single course. Students who attend two courses, and do not wish to graduate at the end of the second term, may continue to attend thereafter as long as they choose, by paying the matriculation fee only.

Clergymen having a pastoral charge, who are desirous of acquiring medical knowledge, but do not intend to change their profession, may attend the lectures gratuitously.

Students and attorneys at law, who wish to avail themselves of the benefits of the lectures on Medical Jurisprudence, can obtain tickets to that course, by paying five dollars.

Graduates of all other regularly organized and legally authorized medical institutions, will be at liberty to attend the lectures in this institution gratuitously.

The Board of Trustees have furnished the Faculty with ample lecture rooms, in their capacious and central edifice, where those who wish to prosecute practical anatomy, will, under the superintendance of the professor of Special and Surgical Anatomy, be furnished with commodious apartments and all desirable facilities. These apartments will be opened the first of October, to afford students who may desire to engage, personally in operative anatomy, without being interrupted by lectures, the requisite opportunities.

The united cabinets of anatomy—healthy and morbid, human and comparative—of Dr. McDowell and Dr. Gross, will be found extensive, diversified, and instructive; and as it is the fixed purpose of the Faculty to render their school eminently anatomical, they intend to adopt such measures as will effect a rapid augmentation of the museum of preparations.

Various courses of lectures by four of the professors, and several gentlemen out of the school, are now delivering, and will be continued till the regular session commences in autumn. These lectures are preparatory to the establishment of a permanent summer school, and for this year are gratuitous.

In conclusion the Faculty will add, that every Sunday morning of the three last months of the session, the professor of the Theory and Practice, will deliver a discourse on the social, moral, and religious duties of students and medical men; which of course the members of the class will be at liberty to attend or decline, according to their respective tastes.

By order of the Faculty:

DANIEL DRAKE, M. D. Dean,
Medical Faculty of Cincinnati College.

Cincinnati, Ohio, 30th June, 1835.

MEDICAL COLLEGE OF OHIO.

The Annual Course of Lectures in this Institution, will commence, as usual, on the last Monday of October, and close in the last week of February.

FACULTY.

JEDEDIAH COBB, M. D. *Anatomy and Physiology.*
JOHN LOCKE, M. D. *Chemistry and Pharmacy.*
ALBAN G. SMITH, M. D. *Surgery.*
JAMES C. CROSS, M. D. *Materia Medica.*
JOHN MOORHEAD, M. D. *Obstetrics and the Diseases of Women and Children.*
JOHN EBERLE, M. D. *Theory and Practice of Medicine.*
JOHN T. SHOTWELL, A. B. M. D. *Adjunct Professor of Anatomy.*

J. COBB, M. D. *Dean.*

UNIVERSITY OF MARYLAND.

The Lectures in the Medical Department of this Institution will commence on the last Monday of October, and continue until the first of March.

Nathaniel Potter, M. D. *Pathology and the Practice of Medicine.*

Richard Wilmot Hall, M. D. *Obstetrics, and the Diseases of Women and Children.*

Nathan R. Smith, M. D. *Surgery.*

Julius T. Ducatel, M. D. *Chemistry and Pharmacy.*

E. Geddings, M. D. *Anatomy and Physiology.*

Robley Dunglison, M. D. *Materia Medica, Therapeutics, Hygiène, and Medical Jurisprudence.*

Clinical Lectures will be given at the Baltimore Infirmary, by the Professors of the Practice of Medicine and Surgery.

With a view to afford every facility in the prosecution of Practical Anatomy, the Demonstrator—Dr. Baxley—will open the dissecting rooms on the first of October.

ROBLEY DUNGLISON, M. D. *Dean.*

Baltimore, July, 1835.

ANATOMICAL THEATRE.

LECTURES ON

ANATOMY, PHYSIOLOGY, AND OPERATIVE SURGERY,

WITH DEMONSTRATIONS.

BY

WM. N. BAKER, M. D.

The Rooms immediately in the rear of the University Building, will be opened on the *first of October.* The Lectures will commence in the last week of October.

The rooms are convenient and well ventilated; and the undivided attention of the Demonstrator, with every facility for Anatomical pursuits, will be at the command of the class.

Baltimore, September 1, 1835.

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